Ex-CIO tells how to turn around a failing IT department.

Feds don't plan to impede offshore outsourcing.

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SEPTEMBER 29, 2003 VOL 37 NO 39 $5/COPY

Coders Face Nontech Hurdles

Service-oriented tack creates people, process challenges

BY CAROL SLIWA
LOS ANGELES

Technology issues are only one of the hurdles confronting companies that are adopting or considering a service-oriented approach for their development work.

IT managers attending Gartner Inc.'s Application Development Summit here last week said they face equal if not greater challenges in marshalling their personnel and processes as they lay the foundations for service-oriented architectures.

"For a large shop with a variety of tools, how do you get standardization in development efforts? How do you make people receptive to all these changes? How do you put some order in the process?" asked Ulma Gonzalez, director of the application development division in the e-government department of Miami-Dade County in Florida.

Gonzalez said the county has just started down a ser-

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INSIDE
Merrill Lynch explains its service-oriented approach. Page 18

Anti-Microsoft Security Report Mired in Politics

@stake fires CTO for co-authoring document; impartiality of researchers, hackers challenged

BY DAN VERTON
WASHINGTON

A report that might have been a valuable contribution to the study of the security ramifications of monolithic IT infrastructures has instead become a pawn in the unending political battle between pro- and anti-Microsoft factions. And it has cost one of the co-authors his job.

The controversy stems from a report released Sept. 24 by seven self-proclaimed independent researchers from the IT security industry that harshly criticized Microsoft Corp.'s monopoly hold on the software industry. That hold is a fundamental cause of security problems that now confront the global Internet community, the report contends.

The day after the report's release, co-author Dan Geer was fired from his job as chief technology officer at Cambridge, Mass.-based @stake Inc., a security company that derives a hefty percentage of its income from Microsoft. Moreover, the firing was made retroactive to Sept. 23 so that @stake could further distance itself from Geer and the report, sources close to the situation said.

An @stake official, who spoke on condition of anonymity, confirmed that Geer was fired and said that as a corporate officer he should have known that Microsoft was a client of the company. "It's not a matter of the content of the report, it's a matter of ethics and respect for clients," the official said.

Geer couldn't be reached for comment on Friday.

Chris Wysopal, @stake's director of research, said the company had no argument with the report's basic premise that technological diversity poses less of a security risk than monolithic architectures. "But the way the report is positioned and a lot of its conclusions are things we don't agree with. The report is a bit one-sided," he said.

In any case, the firing didn't go down well with other authors of the report.

"Its very sad that @stake fired him for this," said Bruce Schneier, a co-author and founder of Cupertino, Calif., security consultancy

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UN Adopts ASP Model for ERP

Agency scraps system in favor of PeopleSoft in $27.5M global rollout

BY PATRICK THIBODEAU
NEW YORK

On Jan. 1, Norman Sanders, CIO of the United Nations Development Program, will take his global IT infrastructure from a once-a-month reporting system to a round-the-clock operation. It's a change that will affect 7,500 users, and Sanders knows exactly how many days remain until the switch takes place.

When that day arrives, "my heart is going to be in my mouth, I assure you," he said. And that will be true for some others at the agency "who have really put their necks and careers on the line," Sanders said.

The UNDP, the UN agency that runs development pro-

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> **"What I would have preferred would have been a risk-free option. The [situation] was, take your pick as to which risk you want."**
>
> NORMAN SANDERS, CIO, UNDP

InnovationInterruptus

Several years of budget cuts have unplugged many of the most innovative IT development projects, a Computerworld survey shows. But some pockets of creativity remain, especially at longtime IT leaders such as Wal-Mart, FedEx and UPS. **Page 41**

NEWSPAPER

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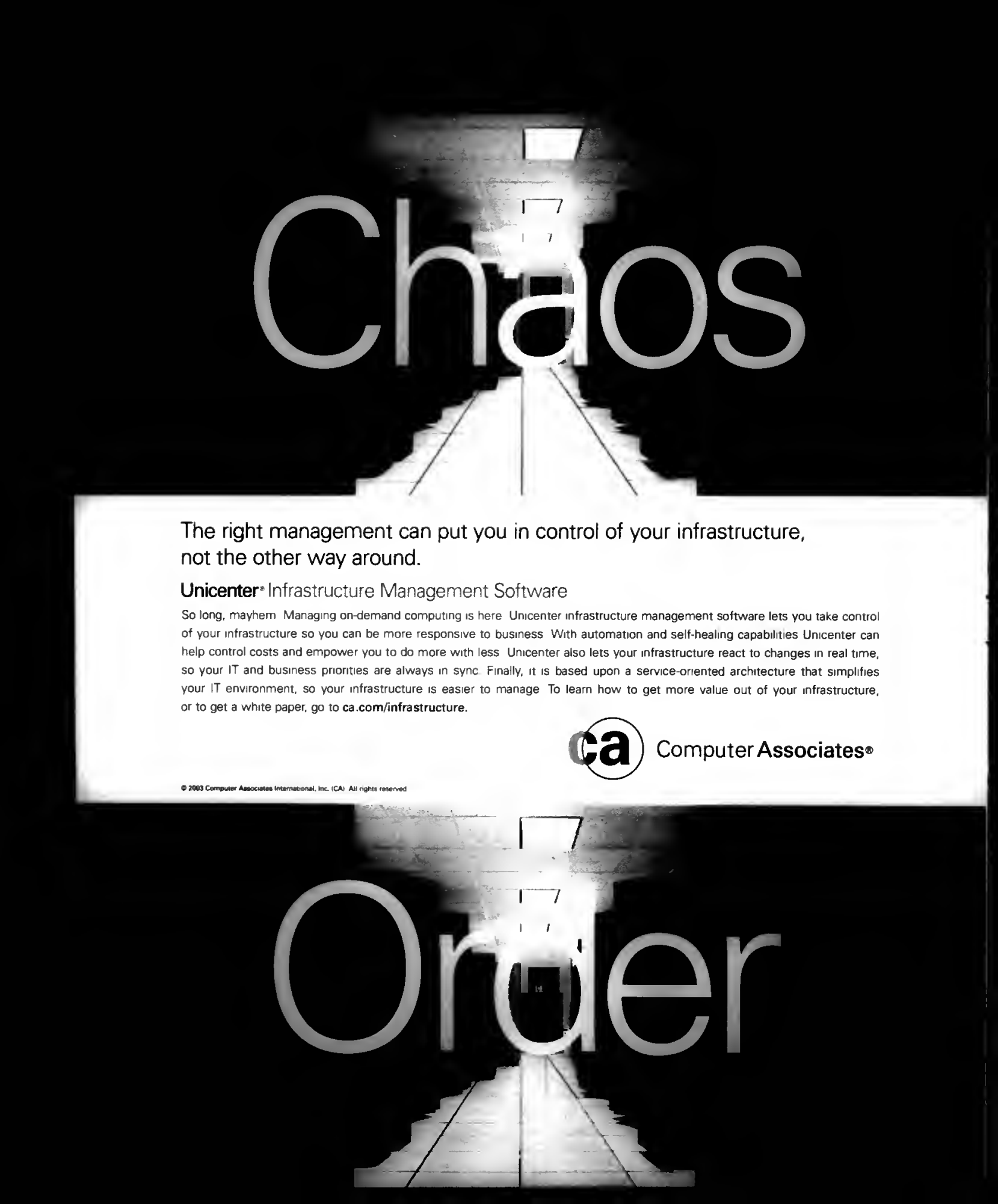
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IT Turnarounds

In the Management section: Is your IT shop chaotic, unfocused or demoralized? Here's a road map for fixing such problems, from an ex-CIO who has done it several times. **Page 44**

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Keep Information Secure Beyond Data Center Walls

SECURITY: Hackers don't need to target big corporate systems to cause trouble, notes Sun's Brad Powell. He offers advice on reducing the risks of remote computing. QuickLink 40167

Software Best Practices

DEVELOPMENT: Get projects done on time and within budget using these 10 simple tips. QuickLink 41546

Benefits of Progressive Backup

STORAGE: Progressive technology takes some of the repetition out of backups and simplifies storage management, says Tivoli's Laura Sanders. QuickLink 41079

First Take: Apple's Speed Demon

MACINTOSH: *Computerworld* reviews what Apple calls the world's fastest desktop computer, the dual 2-GHz Power Mac G5. QuickLink 41026

Make the Best Choice For Identity Management

SOFTWARE: Two consultants at Avanade outline infrastructure issues to consider when integrating applications. QuickLink 41000

What's a QuickLink?

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AT DEADLINE

IBM Cuts Jobs at Software Unit . . .

IBM said it's laying off about 380 U.S. workers in its software division in an effort to eliminate overlapping jobs and increase the unit's efficiency. The cuts, which are due to be completed within 30 days, will reduce the software division's workforce by 1%. Customer-facing jobs won't be affected, IBM said, noting that the layoffs will mostly affect marketing and administrative positions.

. . . And Expands Claims Against SCO

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HP to Downsize Its Utility IT Tools

Hewlett-Packard Co. said it's developing a slimmed-down version of its Utility Data Center (UDC) software, a set of utility computing tools for managing IT resources. The software will be aimed at midsize companies and departmental users and will start at about $100,000, compared with an $800,000 base price for the full-function UDC. The new software should ship next year.

Lawson to Acquire Two Companies

Lawson Software in St. Paul, Minn., said it's buying Apexion Technologies Inc., a San Francisco-based vendor of mobile health care applications, and Closedloop Solutions Inc., a Redwood City, Calif.-based maker of collaborative budgeting tools.

3Com Launches WAN Routers Based on Huawei's Technology

Vendor broadens reliance on partners

BY MATT HAMBLEN

NETWORKING vendor 3Com Corp. today will introduce its first WAN router line. The new products are made by Chinese vendor Huawei Technologies Co., a move that highlights 3Com's increasing reliance on business partners and operations in Southeast Asia for technology development and product manufacturing.

NETWORK CENTRAL
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The rollout of the Router 5000 series for midsize users and branch offices of larger companies follows 3Com's announcement earlier this month that it plans to outsource all manufacturing of its enterprise networking products. 3Com, which will lay off about 1,000 of its 3,100 workers as a result of the outsourcing decision, also said it's shifting development of low-end volume products to a new facility in Taiwan.

The Marlboro, Mass.-based company is trying to regain its position as a leading vendor of corporate networking equipment after temporarily abandoning that market three years ago. But 3Com faces stiff competition from bigger rivals like Cisco Systems Inc., and it's trying to rebound from losses that totaled $283.8 million in its last fiscal year and $106 million in its fiscal 2004 first quarter, which ended Aug. 29.

Several 3Com users last week said they were mostly unconcerned about the restructuring program, adding that they hope the ongoing changes help strengthen the vendor. The users also welcomed the arrival of the Router 5000 family and said they trusted the pairing between 3Com and Huawei.

"I want [3Com] to do well, because we want to use them," said Sean McRae, CIO at Prudential Northwest Properties, a Portland, Ore.-based real estate brokerage that has 19 offices and 750 employees.

McRae plans to look closely at the new router line as a potential alternative to Cisco's products. "From a cost perspective, it sounds terrific," he said. "The fact that Huawei builds in China is not a concern as much, since we would have support from 3Com."

3Com's Outside Help

HUAWEI TECHNOLOGIES: The two companies are setting up an enterprise networking joint venture, and 3Com has started buying routers and switches made by Huawei.

ASPECT COMMUNICATIONS: Aspect plans to resell 3Com's VoIP technology for use with its call center applications.

FLEXTRONICS INTERNATIONAL LTD. AND JABIL CIRCUIT INC.: They will take over all manufacturing of 3Com's high-end networking products under separate outsourcing deals, and Flextronics will handle global distribution.

Ted Malos, director of technology at the Ventura Unified School District in Ventura, Calif., said he also will evaluate the Huawei-built routers to see if they would integrate easily into his network, which connects 27 school sites and includes IP phones and other equipment made by 3Com. The 5000 series "sounds like a Cisco replacement" because of its low cost and promises of high reliability, Malos said.

3Com said CEO Bruce Claflin and other top executives weren't available last week to discuss the company's strategy. In a statement issued Sept. 18, when 3Com reported its first-quarter results, Claflin highlighted the company's plan to set up a joint venture with Shenzhen, China-based Huawei and a voice-over-IP deal that it announced last month with Aspect Communications Corp. in San Jose.

"While it would be premature to suggest an industry or company turnaround, we are encouraged," Claflin said, noting that 3Com began its new fiscal year "with an expanded set of products [and] an enhanced set of partners."

Despite its losses, 3Com still has $1.5 billion in cash. And the company's recent moves should help make it stronger over time, said Zeus Kerravala, an analyst at The Yankee Group in Boston. Kerravala said that Huawei "makes decent products" and that shifting some of 3Com's engineering work to China is a sensible plan. "You can save a lot by replacing a $150,000 engineer in the U.S. with a $25,000 engineer in China," he noted.

But Wesley Cummins, a financial analyst at B. Riley & Co. in Los Angeles, was skeptical about 3Com's prospects. "It was a mistake to set up the joint venture," he said. "We don't think there's room for another vendor in the high-end router space." **41657**

New Product Line Offers Four Devices to Users

3Com said the Router 5000 product line that it plans to introduce today includes four devices priced from $1,395 to $6,495 that are scheduled to ship next week.

Nick Tidd, 3Com's director of market strategies for the Americas region, said the company in late November plans to add a set of network management tools for the routers. The Network Administrator software, which was written by developers at 3Com, will work in conjunction with Hewlett-Packard Co.'s OpenView management technology, said Tidd.

Wendy Neuzil, network administrator for the Cedar Rapids Community Schools in Cedar Rapids, Iowa, said one of the new routers worked successfully in tests earlier this month, matching or exceeding the performance of a comparable product from Cisco.

The school district will soon issue a request for bids on a planned purchase of 34 edge routers, and Neuzil said she plans to recommend that it buy the 3Com equipment.

The router family is the second Huawei-developed technology announced by 3Com. The first was a core LAN switch that was released in July. A Hong Kong-based joint venture being formed by the two companies will develop products and sell them in China and Japan, with 3Com handling sales in the U.S. and the rest of the world.

Under the plan, which was announced in March, 3Com will contribute $160 million and about 50 employees to the joint venture, while Huawei will transfer 1,000 workers and license some of its LAN switching and routing technology to the new company.

–Matt Hamblen

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– Matt Hamblen

Bush Administration Won't Impede Offshore Outsourcing

Positive effects such as increase in productivity cited

BY PATRICK THIBODEAU
NEW YORK

IT WORKFORCE

Although the Bush administration sees pros and cons in the trend toward offshore outsourcing, it has no plans to impede companies' efforts to move IT jobs to India or elsewhere. Instead, it plans to focus on developing an economic climate that helps create jobs in the U.S., an administration official said last week.

"The answer to economic challenges is growth and innovation," said Chris Israel, a deputy assistant secretary at the U.S. Department of Commerce, speaking at an IT services outsourcing symposium here. He cited the administration's support for increased investment in research and development, education and expanded trade authority for the president as examples of its efforts to improve growth.

If it chose to do so, the White House could create obstacles for U.S. companies that want to move work overseas. It could use its power over regulated industries, such as financial services, to discourage sending work offshore by raising national security concerns. It could also set "buy American" standards for government purchases of IT products or back legislation in Congress to restrict visas such as the L-1, which multinational companies use to facilitate offshore development.

Israel said he understands the ramifications of offshore outsourcing, such as downward pressure on salaries in the IT industry and the potential for a "reverse brain drain," where highly skilled IT workers choose to work in countries other than the U.S. But he also noted that offshore development could have positive effects, such as driving prices down and productivity up.

Although the Bush administration may be on the fence about the effects of offshore outsourcing, Phil Friedman, CEO of Computer Generated Solutions Inc., is not. He opposes moving jobs offshore. Friedman said his company, a New York-based systems integrator and managed services provider, recently opened a technical services center in Atlanta. The company had to fill 300 positions at the new facility, and it received 3,000 applications for those jobs in three days.

"That tells me the story," said Friedman. "We have plenty of talent, so we are not moving jobs [offshore] because we cannot find talent or we don't have the quality of talent in this country. But I'm wondering [if] in the rush to send jobs offshore, we, in some respects, are neglecting the moral responsibility we have with our employees.

"We need those technology skills. This country is making productivity gains only because of the technology we've been able to implement, and all of a sudden we are abandoning those employees, and it's bothersome," said Friedman.

Countering that view was Gordon Coburn, senior vice president and chief financial officer at Cognizant Technology Solutions Corp., a Teaneck, N.J.-based offshore services provider, who said offshore work allows businesses to remain competitive.

"For a U.S. company to take the approach that 'No, I have to do it all here because I have to protect the jobs,' in the end, it's going to cost more jobs here because they're not going to survive, because they won't be price-competitive," said Coburn. "On a long-term basis, I think that by our clients leveraging the offshore model, they are actually protecting American jobs."

Israel said it's difficult to distinguish the number of IT jobs lost as a result of offshore outsourcing from those lost because of the industry downturn. He said there isn't "statistical data that shows one-to-one correlations."

Priscilla Tate, director of the Technology Managers Forum, a New York-based group representing IT executives at large companies, said offshore development is taking a toll on U.S. workers. "Higher-skilled jobs are going away," she said. "There are people who will not get jobs in the IT industry again — they just have been replaced." 41662

Oracle Deal With Energy Dept. Yields New Security Model

Benchmark could keep application vendors in security loop following sale

BY DAN VERTON

Last week's announcement by the U.S. Department of Energy that it will require Oracle Corp. to deliver software that's configured for optimal security and then provide immediate postdeployment support for security patches may signal the beginning of a dramatically different security model for the government and industry, security experts said.

The potential shift stems from the government's push to use a new security configuration benchmark developed by the Center for Internet Security (CIS) to test and certify Oracle database versions 8i and 9i running on Windows and Unix [QuickLink 41553].

The benchmark, developed with dozens of Oracle software users and the SANS Institute through the CIS, will be available to anyone, free of charge, at the CIS Web site.

"Oracle not only agreed to deliver a safely configured system but also to deliver hot fixes and patches automatically and to ensure that none of those fixes undoes the security settings," said Alan Paller, director of research at the Bethesda, Md.-based SANS Institute. This solves two huge problems for software buyers, said Paller, because they will no longer have to search for patches and they will no longer have to test patches to determine whether they would unravel other key security settings.

In fact, the DOE will now receive data on bugs and fixes through an internal, Oracle-run automated bug-tracking system. Through this system, the company will automatically deliver patches to a central server at the DOE.

The agency signed a separate contract with Sunnyvale, Calif.-based Opsware Inc. to ensure that every DOE system has the most up-to-date configuration of Oracle software, thereby enabling patches to proliferate automatically throughout the network.

Providing Guidelines

Tim Hoechst, Oracle's senior vice president of technology for government, education and health care, said the release of the CIS-developed Oracle benchmark in conjunction with the DOE contract is designed to ensure that customers configure their software properly so they can take full advantage of the security features.

"We're not just throwing the locks over the fence — we're climbing over the fence with our locks," he said. "Designing our products with secure functionality does not necessarily mean our customers take advantage of that functionality. What this does is produce guidelines for how to best use the technology."

Clint Kreitner, president and CEO of CIS, said that until now, much of the focus has been on influencing operating system vendors to improve security and support.

The next phase, heralded by the Oracle benchmark, is to focus on application vendors, he said. "People don't buy computers around operating systems," Kreitner said. "They buy them around applications." The DOE's contract with Oracle is something other agencies and companies should consider emulating, he added. 41700

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>
> **ALAN PALLER,** DIRECTOR OF RESEARCH, SANS INSTITUTE

CAREER MOVE

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BRIEFS

Sun Details New Chip Technology

Sun Microsystems Inc. said it has developed "proximity communication" technology that lets computer chips exchange data without being physically connected by pins and wires. The approach could be used to eliminate or modify the printed circuit boards now used in systems. But Sun said it still needs to prove that devices supporting the new technique can be produced in volume.

Microsoft Releases 64-bit Win XP Beta

Microsoft Corp. released a 64-bit version of Windows XP for beta-testing on desktop PCs and workstations that use processors from Advanced Micro Devices Inc. Microsoft said the beta release supports AMD's Opteron chip and its Athlon 64 device, which was announced last week. The software is due to ship by mid-2004, as is a 64-bit version of Windows Server 2003.

Intel Adds Mobile Threading Support

Intel Corp. introduced four versions of its Mobile Pentium 4 processor that support the hyper-threading technology already used on some of the company's chips for servers and desktop PCs. The feature should improve the performance of multimedia applications on notebook PCs, Intel said. Dell Inc. announced that it's adding one of the new chips to its Inspiron 5150 system.

Short Takes

In other INTEL news, the company said it has has paid $450 million to buy a 5.3% stake in Micron Technology Inc., a Boise, Idaho, maker of memory chips. . . . Handheld vendor RESEARCH IN MOTION LTD. in Waterloo, Ontario, became profitable in its second quarter, which ended Aug. 30, with earnings of $2.1 million.

HP to Indemnify Users Against SCO Legal Action

Says it will defend its Linux customers if they're sued and pay any damages

BY TODD R. WEISS

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"It demonstrates that HP doesn't think SCO has a legal leg to stand on," he said. "If they thought they'd have to pay off on that indemnity, they wouldn't have offered it."

Joe Poole, manager of technical support at Boscov's Department Store LLC in Reading, Pa., called the pledge "one more layer of protection" for HP users. But Poole added that even if he received such a promise from IBM, his hardware vendor, he wouldn't be convinced that Boscov's was safe from legal threats as long as the suit SCO filed against IBM in March was pending.

Nothing to Fear

But Kyle Arteaga, a spokesman for London-based Reuters Group PLC, said that HP's announcement was a noteworthy step for customers who run the Reuters Market Data System software on Linux-based HP ProLiant servers. "Anything that may remove any fear on our customers' part is a good thing," he said.

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Martin Fink, vice president of Linux enterprise servers and storage at HP, said during a press conference last week that the indemnification "is about accountability and protecting the customer. We're giving the green light to customers to move forward on their Linux deployments."

ALL THE DETAILS

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QuickLink a3260
www.computerworld.com

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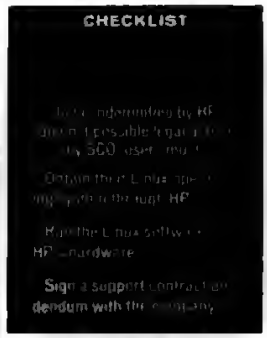
Other scenarios, such as users who want to be indemnified for running a Linux distribution acquired from another vendor on HP's hardware, can be discussed on a case-by-case basis, he added.

HP's indemnification plans "reaffirm the fact that enterprise end users running Linux are exposed to legal risks," Darl McBride, SCO's president and CEO, said in a statement.



"Rather than deny the existence of substantial structural problems with Linux, as many open-source leaders have done, HP is acknowledging that issues exist."

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Red Hat Enterprise Linux Upgrade Due Next Month

Release increases scalability, supports 16 processors

BY TODD R. WEISS

Red Hat Inc. will release a new version of its enterprise Linux operating system next month, marking the starting point of a product road map that the company detailed last week.

Red Hat Enterprise Linux 3 will add a default Logical Volume Manager for storage management, as well as support for the new Native Posix Threading Library. That means the operating system will support thousands of program-instruction threads rather than hundreds, making it more scalable and expanding its multitasking capabilities, according to Red Hat.

"That's really going to change the use of Linux for application servers," said Brian Stevens, vice president of operating systems development at the Raleigh, N.C.-based company.

A high-availability cluster component is expected for the operating system later this year, and integrated storage management and virtualization components will arrive by 2005, Stevens said.

Tom Pratt, information systems manager at Coastal Transportation Inc., said he has looked at the new Red Hat operating system and will eventually upgrade to it. The Seattle-based shipping company currently runs desktop versions of Red Hat Linux and is eager to take advantage of the enterprise version's longer release cycles and related ease of maintenance, Pratt said. Also attractive in the new operating system is its improved memory management, he said.

Enterprise Linux 3

Includes improved capabilities:

- Support for 16 CPUs, up from 8 CPUs
- Support for 64 GB of memory, up from 16 GB
- Improved multithreading support
- Default Logical Volume Manager

The new operating system, which is based on the Linux 2.4.21 kernel, replaces the existing Red Hat Advanced Server product line and will support up to 16 CPUs and up to 64GB of memory. That's up from eight CPUs and 16GB of memory supported by the previous version.

The upcoming Linux Kernel 2.6 is still in the early stages of development and probably won't be included by Red Hat until the next version of the enterprise server operating system, Version 4, is released late next year, Stevens said. Work continues on Kernel 2.6 to give it support for thousands of SCSI devices, up from today's limit of 256, he said.

Pricing for the new operating system hasn't yet been announced. 41689

BRIEFS

Sun Details New Chip Technology

Sun Microsystems Inc. said it has developed "proximity communication" technology that lets computer chips exchange data without being physically connected by pins and wires. The approach could be used to eliminate or modify the printed circuit boards now used in systems. But Sun said it still needs to prove that devices supporting the new technique can be produced in volume.

Microsoft Releases 64-bit Win XP Beta

Microsoft Corp. released a 64-bit version of Windows XP for beta-testing on desktop PCs and workstations that use processors from Advanced Micro Devices Inc. Microsoft said the beta release supports AMD's Opteron chip and its Athlon 64 device, which was announced last week. The software is due to ship by mid-2004, as is a 64-bit version of Windows Server 2003.

Intel Adds Mobile Threading Support

Intel Corp. introduced four versions of its Mobile Pentium 4 processor that support the hyper-threading technology already used on some of the company's chips for servers and desktop PCs. The feature should improve the performance of multimedia applications on notebook PCs, Intel said. Dell Inc. announced that it's adding one of the new chips to its Inspiron 5150 system.

Short Takes

In other INTEL news, the company said it has has paid $450 million to buy a 5.3% stake in Micron Technology Inc., a Boise, Idaho, maker of memory chips. . . . Handheld vendor RESEARCH IN MOTION LTD. in Waterloo, Ontario, became profitable in its second quarter, which ended Aug. 30, with earnings of $2.1 million.

HP to Indemnify Users Against SCO Legal Action

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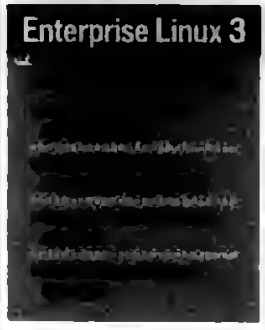

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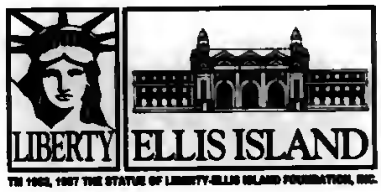

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New Owner Delays Baan ERP Upgrade

SSA executive says Baan lost touch with users, promises 'a solid product'

BY JORIS EVERS

SSA GLOBAL Technologies Inc. last week planned to demoostrate an early version of an ERP applications upgrade that's heing developed by its Baan unit. But SSA, which took control of Baan in July, said it has delayed the release of the upgrade from this month to the second quarter of next year.

According to SSA, Baan has spent about $100 millioo on the software, which is code-named Gemini. But Graeme Cooksley, executive vice president of sales and marketing at Chicago-based SSA and Baan's new president, said Baan had lost touch with the needs of its users and neglected to integrate its CRM and logistics applications with Gemini.

Cooksley added that SSA, which held its annual user conference last week in Orlando, is committed to Gemini and will release the technology as "a solid product, with migration tools and the essential features and functions."

Wait and See

Keith Bearden, CIO at A-dec Inc., a maker of dental equipmeot in Newberg, Ore., said he plans to wait at least a couple of years before upgrading to Gemini from the Baan IV ERP applications he now uses. In the meantime, Baan needs to do a better job of supporting its users, he added.

"We've seen support become second fiddle to new development," Bearden said. "Baan spent more time oo Gemini than they did integrating the products they already had." He noted that after A-dec ran into performance and integration problems with CRM applications it bought from Baan last year, its IT staff had to speod "a lot more time and money" than it expected to get the issues resolved.

Darren Symington, IT manager at MTM Pty., an auto parts maker in South Oakleigh, Australia, said his company is still satisfied with the 7-year-old Baan IV software. Switching to another ERP vendor would require a huge investment, he pointed out.

But Symingtoo said that Cooksley "has to convince me that SSA is going to take care of the situation" at Baan. Delaying Gemini was a good start, he said, adding that shipping an incomplete version likely "would be the last nail in the coffin for Baan."

About 70% of Baan's 6,000 users are still running Baan IV, not its oewer iBaan V software. If SSA botches the rollout of Gemini, it risks losing customers altogether, said Brian Zrimsek, a Gartner Inc. analyst in Pittsburgh.

Baan IV users "are nearing the end of the life cycle," Zrimsek said. "Given what Baan has been through, I doo't think SSA can assume that they're just going to upgrade."

Barneveld, Netherlands-based Baan became a subsidiary of SSA in July after it was acquired by the two investment firms that jointly own SSA. Cooksley said Baan was in dire straits wheo it was handed to SSA, which itself is trying to rebound from years of financial problems by making a series of acquisitions (see box).

Baan lost $150 millioo last year and was "bloated," operating as if it had $500 million in annual revenue wheo the actual total was about half that, Cooksley said. But he predicted that Baan will become profitable again within three months, following the recent layoffs of 800 of its 2,800 workers. **41699**

Evers writes for the IDG News Service.

ALL TOGETHER

SSA plans to consolidate overlapping applications from its various software units.

QuickLink 41671
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Recent SSA Acquisitions

JUNE: Buys Ironside Technologies Inc., which sells software for business-to-business e-commerce.

JULY: Completes purchase of Eleven Inc., a maker of collaborative commerce applications.

AUGUST: Announces deal to buy EXE Technologies Inc., a developer of supply chain execution software.

ON THE MARK

Mark Hall was on vacation last week. His column will return in next week's issue.

Oracle Readies CRM, Supply Chain Upgrades

BY MARC L. SONGINI

Oracle Corp. is adding automated configuration tools to its supply chain management applications and is developing an upgrade of its CRM software that's designed to make it easier for users to exchange customer data with other systems.

Oracle executives outlined the upgrade plans this month during a series of briefings at company headquarters in Redwood Shores, Calif. They said the new supply chain features will begin to ship by year's end. The new CRM offering is scheduled to follow by mid-2004.

Don Klaiss, senior vice president of manufacturing and supply chain applications at Oracle, said the configuration tools are heing added io an effort to reduce the time it takes to install the supply chain software to days, instead of weeks or months.

For example, the new release will include a rules-based feature that poses questions to IT managers about their implementations and then helps set up software configurations, Klaiss said.

The oew tools sound like they would be "absolutely useful," said Patrick Harris, director of IT at Sealing Devices Inc., a Lancaster, N.Y.-based maker of seals and gaskets. Harris said installing Oracle's CRM and supply chain applications at Sealing Devices was a daunting job because of their complexity.

"I'd rather have more wizards instead of sitting down with a 700-page manual," he ooted. "There are lots of things to set up, and putting in an interface to make it easier and guide you will save lots of dollars."

Also on Oracle's To-Do List

- **Fully integrate** iLearning app and human resources software.
- **Add a reporting feature** based on Web services technology to iLearning so it can transmit data from other applications.
- **Upgrade** Daily Business Intelligence application with six new role-based views and support for analyzing data in additional functional areas, including fixed assets.

Preparing for RFID

Klaiss said Oracle has also started beta-testing new warehouse manageoent applications that will he able to more effectively handle data generated by radio frequency identification (RFID) tags. In addition, the warehouse software will work with the company's Oracle Database 10g technology to provide load-balancing, reporting and data management functions for RFID uses.

Andrew Kass, vice president of CRM development at Oracle, said the company is tweaking the architecture of that product line to enable more rapid data sharing betweeo different modules in its E-Business Suite 11i product line. For example, users could automatically mirror information about customer service work that had been completed from the CRM software to Oracle's manufacturing or supply chain applications, Kass said.

The CRM upgrade will also include new features aimed at boosting employee productivity and helping users proactively address potential problems with their customers, according to Kass. One such enhancement will let companies log in any repeated problems customers might have with a given product to help them avoid similar problems.

Victor Burgess, vice president and general manager of alliances at Peoria, Ill.-based Affina, said the CRM upgrade could help speed order-fulfillment processes at the company, which manages customer service outsourcing work.

Affina runs Oracle's CRM and applicatioo server software, but Burgess said users sometimes have to go through multiple steps to check product inveotories. The more those processes can he standardized and automated, the better, he added. **41659**

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BRIEFS

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Symantec, Sophos Make Purchases

Security software vendors Symantec Corp. and Sophos PLC both announced acquisitions. Cupertino, Calif.-based Symantec said it agreed to buy PowerQuest Corp., a vendor of systems and storage management tools in Orem, Utah, for an undisclosed price. Abingdon, England-based Sophos said it has paid $23 million to purchase ActiveState Corp., a maker of antispam software in Vancouver, British Columbia.

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Users Mull Upgrade To Notes 6.5 Release

Added features, similarity to Microsoft Outlook could warrant move, they say

BY TONN R. WEISS

SOME OF THE new features in Version 6.5 of Lotus Notes and Domino, announced last week, are getting high marks from users tasked with determining whether those features warrant an upgrade.

Scott Melendez, principal information systems engineer for enterprise messaging for the city and county of San Francisco, said users who beta-tested the integrated Notes 6.5 e-mail and instant messaging (IM) client welcomed its similarity to Microsoft Corp.'s Outlook.

Among the popular additions is a follow-up folder into which a user can put incoming e-mails that require a response. Also getting high marks, he said, are new symbols that appear next to an e-mail when a user has responded to the message or forwarded it, making it easier to keep track of the status of messages.

"Those small things make a difference for end users" by aiding productivity and making e-mail chores easier, Melendez said. The addition of Outlook-like features is a welcome development, he said.

An IT manager at a large pharmaceutical company who asked not to be identified agreed that Notes 6.5 brings welcome updates. "We'll probably go with 6.5 on the client," she said.

She said a key new feature is the deep integration of e-mail with IM. The new built-in IM capabilities were formerly part of the separate Lotus Sametime application.

But for many users, the arrival of Version 6.5 is a non-event. Perry Hiltz, a systems engineer at consumer and industrial products manufacturer Henkel Corp. in Dusseldorf, Germany, said he's still working to roll out last year's Notes 6 upgrade to 35,000 global users and hasn't even had a chance to look at Notes 6.5. Henkel users are still running the Notes 5 client and won't begin moving to Notes 6 until the end of 2004, he said.

Spam Buster

IBM's Lotus Software Group said Notes and Domino 6.5 will be available soon. Among the new features is a "block mail from sender" option that allows users to train their Notes client to stop spam that gets through corporate network controls.

Pricing starts at $89 per user for the basic Notes 6.5 e-mail client and $1,145 per processor for Domino Messaging Server 6.5. For more full-featured e-mail and collaboration versions, pricing begins at $125 per user and $2,964 per processor for Domino Enterprise Server 6.5.

Also available is a standalone Web-based version called Domino Utility Server 6.5, which starts at $15,067 per processor and lets companies write collaborative applications for Domino that can be accessed through Web browsers without separate client software. **41676**

California Passes Spam Ban

BY STEPHEN LAWSON

California took a tough stand against spam last week, as Gov. Gray Davis signed a law prohibiting anyone from sending unsolicited commercial e-mail to California e-mail addresses.

E-MAIL

The law sets up an opt-in requirement intended to prevent users from getting e-mail advertisements unless they've asked to be on the sender's list. Senders of unsolicited messages could be held liable for damages up to $1,000 for each message to an individual and up to $1 million for each e-mail advertisement sent out. The recipient, the state attorney general or the e-mail service provider could seek damages.

The law also bans the sending of spam from California and prohibits the collection of e-mail addresses or registering multiple e-mail addresses for the purpose of sending spam. The law is set to take effect Jan. 1.

Unscrupulous spammers who are hard to track down are unlikely to knuckle under, but the law should have some effect on both senders and recipients of commercial e-mail, legal experts said.

"I don't think this is the silver bullet to spam. You're still going to want e-mail filters, and you're still going to receive spam from parts unknown, but this will make a dent," said David Kramer, a partner at law firm Wilson, Sonsini, Goodrich and Rosati in Palo Alto, Calif.

Companies that may have been on the fence about whether to send unsolicited commercial e-mail now have a clear sign that it's illegal and that the potential for lawsuits will enter the cost equation, he said.

A strong law in the U.S. state with the highest population will also apply pressure for more effective national laws, Kramer added. Now, for members of Congress, "it's hard to go on record supporting weak or preemptive legislation," he said.

> **"It's not appropriate for one state, by writing an overly broad law, to dictate what people do elsewhere."**
>
> **CINDY COHN,** LEGAL DIRECTOR ELECTRONIC FRONTIER FOUNDATION

Washington is indeed where the battle is headed, said Devin Gensch, an attorney at Fenwick & West LLP in Mountain View, Calif.

"I don't think this is the end of it," Gensch said. The law is likely to spark action by both spam opponents that want stronger laws and industry groups that want to preempt California with a more permissive federal law, he said.

Cindy Cohn, legal director of the Electronic Frontier Foundation, a San Francisco-based Internet rights group, said she's worried about the impact of the law.

"It's not appropriate for one state, by writing an overly broad law, to dictate what people do elsewhere," she said. The best way to fight spam is not with a law but with filtering technology, which is more flexible, Cohn said. **41678**

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"I don't think this is the silver bullet to spam. You're still going to want e-mail filters, and you're still going to receive spam from parts unknown, but this will make a dent," said David Kramer, a partner at law firm Wilson, Sonsini, Goodrich and Rosati in Palo Alto, Calif.

Companies that may have been on the fence about whether to send unsolicited commercial e-mail now have a clear sign that it's illegal and that the potential for lawsuits will enter the cost equation, he said.

A strong law in the U.S. state with the highest population will also apply pressure for more effective national laws, Kramer added. Now, for members of Congress, "it's hard to go on record supporting weak or preemptive legislation," he said.

> **"It's not appropriate for one state, by writing an overly broad law, to dictate what people do elsewhere."**
>
> **CINDY COHN,** LEGAL DIRECTOR, ELECTRONIC FRONTIER FOUNDATION

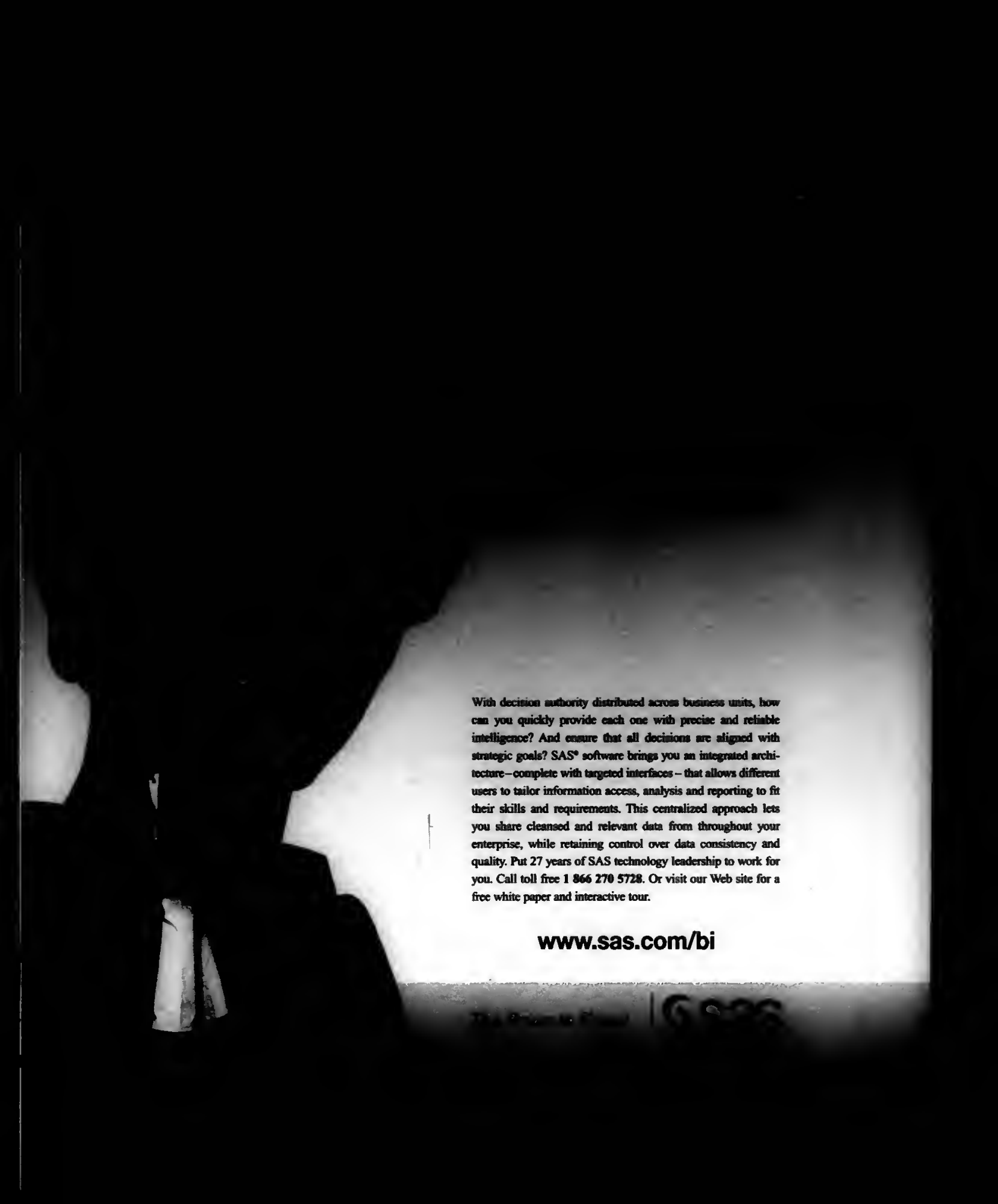
Washington is indeed where the battle is headed, said Devin Gensch, an attorney at Fenwick & West LLP in Mountain View, Calif.

"I don't think this is the end of it," Gensch said. The law is likely to spark actioo by both spam opponents that want stronger laws and industry groups that want to preempt California with a more permissive federal law, he said.

Cindy Cohn, legal director of the Electronic Frontier Foundation, a San Francisco-based Internet rights group, said she's worried about the impact of the law.

"It's not appropriate for one state, by writing an overly broad law, to dictate what people do elsewhere," she said. The best way to fight spam is not with a law but with filtering technology, which is more flexible, Cohn said. **41578**

Lawson writes for the IDG News Service.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UPS Invests $30M in IT to Speed Package Delivery

Automated system will plan loading of trucks, driver routes

BY BOB BREWIN
LOUISVILLE KY

UNITED Parcel Service Inc. last week said it's starting to roll out a $30 million package-flow system that was designed to help the company more efficiently plan deliveries made by its 70,000 drivers in the U.S.

Cathy Callagee, the package carrier's vice president of information services, said at the UPS Technology Summit here that the package-flow project is aimed at speeding up deliveries and enabling drivers to make more stops on their routes. Callagee declined to comment about the return on investment that's expected from the software.

But UPS CIO Ken Lacy said the more efficieot routing made possible by the system should reduce the mileage of the company's delivery fleet by more than 100 million miles per year, saving about 14 millioo gallons of fuel. UPS has piloted the software at its Roswell, Ga., delivery ceoter and plans to deploy it at all U.S. hubs by 2005, Lacy said.

Smart Technology

UPS is basing the package-flow system on so-called smart labels that contain barcoded delivery information and are already used by more than 90% of its customers, Callagee said. Customers upload the informatioo used to create the labels to a secure page on UPS's Web site before drivers pick up packages, and the data is theo transmitted to

the company's delivery centers. When the system is operational, the data will be used by UPS to produce a dispatch plan for each delivery route.

Callagee added that the system will also generate preloading labels for packages to aid in the loading of delivery vans. In addition, it will also include built-in geographic information system software to help planners map out routes. The software is being written in a combination of C and C++ and will run on UPS's existing back-end systems, with end users accessing it via PCs.

Although UPS currently uses bar code scanners to help sort packages in its delivery hubs, planning routes is a manual process that relies on complicated paper charts. Jack Levis, director of industrial engineering at UPS, said the new system will store routing data electronically and provide workers with automated truck-loading instructions.

Callagee said that by capturing shipment information ahead of time, delivery planners could adjust the loads and routes of drivers to optimize delivery efficiency. For example, if a driver has to make an extra-large delivery, some of the work on his route could be diverted to others.

'Touchless' System

Jackie Wood, a UPS systems engineer, said the software will also provide drivers with a delivery manifest for the first time. Until now, drivers determined their daily routes by checking the way packages were loaded in the delivery van, a process that required them to "touch the cardboard," Wood said. With the new system, route information will be electronically transmitted to the handheld devices used by drivers via Wi-Fi wireless LANs installed at UPS's delivery centers, she noted.

Lacy claimed that the technology will provide UPS with "a distinct competitive advantage." But Traci Barnett, a spokeswoman for Memphis-based FedEx Corp., said the UPS rival already uses similar systems to capture and transmit customer delivery information to its hubs. FedEx also has route planning and mapping software in place, although it doesn't load delivery manifests on its driver terminals, Barnett said. 41695

Network Configuration Tool Upgrade Targets Sarbanes-Oxley Compliance

BY MATT HAMBLEN
Gold Wire Technology Inc. today plans to announce a software upgrade for its Formulator line of network configuration management appliances, adding features that it said can help users meet the requirements of the Sarbanes-Oxley Act and other regulations.

Waltham, Mass.-based Gold Wire also said the new release will be able to track configurations of Unix servers in addition to its existing support for network devices made by vendors such as Cisco Systems Inc. and Nortel Networks Ltd. The upgrade is available now; pricing for Gold Wire's Formulator 200 systems starts at $22,000, plus a per-user license fee of $275.

REGULATIONS
For more on Sarbanes-Oxley compliance issues, go online.
QuickLink a3250
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Jim Sherer, director of ASP operations at ADP Inc.'s Dealer Services unit in Hoffman Estates, Ill., said he plans to test the new Formulator release within the next month. The company, which provides computing services to 6,500 auto dealers in the U.S., has been using Gold Wire's current version since February to track changes to systems that are maintained by 1,700 technical support workers.

The new regulatory compliance component is "extremely important" to ADP Dealer Services as it seeks to run required security audits oo its systems, Sherer said. Gold Wire's technology should help the ADP unit track end users and check whether they have proper authentication, he said.

In addition to the regulatory features, the upgrade gives users increased reporting capabilities, Sherer said.

Gold Wire is part of an emerging group of network configuration management vendors that also includes Voyence Inc., AlterPoint Inc. and Rendition Networks Inc., said Glenn O'Donnell, an analyst at Meta Group Inc.

"They're all trying to demonstrate a way to do configuration better, since it's a horribly manual state of affairs right now with lots of errors and inconsistencies," O'Donnell said. He added that Nortel's Optivity technology and Cisco's CiscoWorks software can manage configurations for their respective devices but not for a diverse network. 41697

MORE THIS ISSUE
Despite IT spending limits, UPS and others aren't giving up on innovation. Page 41

UPS Sees RFID In Its Future but Isn't Ready to Deploy Devices

LOUISVILLE, KY.
UPS currently uses bar code scanning systems to track the 13 million packages it delivers on an average day. But CEO Mike Eskew last week said he views the adoption of radio frequency identification (RFID) technology by the company as being close to inevitable.

However, Eskew didn't put a time frame on when UPS will embrace RFID tags, which proponents say can store more detailed information about items that are being tracked than conventional bar codes can.

In July, UPS officials said the company was evaluating whether RFID technology could help make its supply chain management service more efficient (QuickLink 40170). But at last week's technology summit, Eskew wouldn't commit to any specific plans. Usage of the technology by UPS "will happen when it can be embedded in the ink that creates [shipping] labels," he said.

Eskew noted, though, that Wal-Mart Stores Inc.'s plan to require its top 100 suppliers to start using passive RFID tags on shipping pallets by 2005 could take the technology to the stage where it "reaches a critical mass" of users. Bentonville, Ark.-based Wal-Mart announced its embrace of RFID devices in June.

Eric Morley, director of supply chain operations at Best Buy Co. in Richfield, Minn., said at the UPS conference that the electronics retailer plans to launch an RFID test project in the second quarter of next year.

Morley added that although Wal-Mart wants to drive the price of RFID tags down to five cents each, the higher-margin electronic items Best Buy sells could support a per-device cost of 50 cents.

– Bob Brewin

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Continued from page 1

Architecture

vice-oriented path in its mission to deliver Web applications that it hopes will make it easier for the county's citizens to interact with their government. Developers are being asked to provide speedier delivery of those applications, which draw information from legacy systems, she said.

The service-oriented development approach holds great promise in that regard, since programmers shouldn't need to start from scratch. A developer can expose a legacy application through standards-based interfaces and create a software component or service to represent a piece of functionality that can be accessed programmatically. Files that describe the services and how to connect to them can be stored in a registry.

Developers can turn to the registry to see which services are available and use tools to ease the process of linking to them. The ultimate goal is to be able to assemble loosely coupled applications, rather than writing lots of code for tightly coupled applications.

One of the presumptions in the service-oriented approach is code reuse. But IT shops that have been trying for years to achieve that goal are aware of the uphill battle they face. "To get the mind-set change to go out and look for existing code runs contrary to the traditional approach, which is to do it yourself," said one application developer at a financial firm, who asked not to be identified.

"We have good developers who look for those opportunities, but others simply do what they have to do to get by," said Chuck Howard, a Waco, Texas-based development services manager at Southern Farm Bureau Casualty Insurance Co. "Unless you [give] people [an incentive] to do it, they're not going to do it."

Gartner analyst Michael Blechar said one approach is to reward programmers in the form of boouses during annual performance reviews. But the more effective tack for some clieots has beeo punishment for not reusing code, he said.

Another incentive program to encourage developers to write reusable code is a chargeback system, Blechar said. The business unit that funds and creates the code can be credited when another unit reuses it.

One large banking institution logged more than $2 million per year in chargebacks from business units reusing its components, according to Blechar. In return, those groups received tested and proven code that required zero development time.

But before considering an elaborate incentive system, many companies are merely trying to get the IT and business sides of the house to both back a service-oriented architecture. Although many companies have been experimenting with Web services, few have mandated a service-oriented approach for the majority of their development work.

"If it's going to he the priority, it has to come from the top down," said Howard, noting that his company has taken a service-oriented approach only in isolated cases to date.

> **"If [a service-oriented approach] is going to be the priority, it has to come from the top down.**
>
> **CHUCK HOWARD,** DEVELOPMENT SERVICES MANAGER, SOUTHERN FARM BUREAU CASUALTY INSURANCE CO

Vida Wong, an IT director at Farmers Insurance Group in Simi Valley, Calif., said one challenge will he finding a business sponsor who understands the value of the service-oriented approach and identifying services such as payment document imaging. Farmers is in the process of laying the foundation for a service-oriented architecture.

Chuck Kellum, an Indianapolis-based senior technology analyst at Mid-States Corporate Federal Credit Union, said his company started an initiative to overhaul its entire application infrastructure with the hope of gaining greater flexibility, reliability and scalability. With a service-oriented architecture, the IT department will he able to redesign how it supports the business processes and enable change in the processes themselves, he said.

"The challenge is working with the business owners to identify what's going to remain the same and what's going to change," Kellum said.

Wyette Spotts, manager of application services at Universal Underwriters Group in Overland Park, Kan., said his company hasn't had an overarching development strategy and the switch to a service-oriented architecture will represent a culture shift.

Spotts said he and some of his colleagues have been cautious about change because their systems have been working reliably. But Spotts said be can see how the company would benefit from eliminating redundant processes and heing able to quickly introduce new products as the business dictates. **41692**

Service-Oriented Approach

Companies face a series of organizational challenges as they implement a service-oriented development architecture. Gartner analyst Michael Blechar recommends that organizations do the following:

- Have developers skilled in component and service design.
- Make organizational changes to the development group to reflect shared components and services.
- Implement governance policies to identify components and services that can be shared and to account for changes that may be made to the services.
- Develop a program to promote code reuse, including an incentive system.

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Merrill Lynch Talks Up Web Services

LOS ANGELES

Programming experience in Java or C# aren't the only job skills that might be helpful for an IT manager plotting a service-oriented development strategy.

IT executives at New York-based Merrill Lynch & Co., an early adopter of Web services, have found that communications skills are especially important to spread the word about the Web services they're hoping their colleagues will put to good reuse.

"What it really comes down to is marketing," said Jim Crew, director of strategic infrastructure and distributed services (IDS). "You have to be an effective marketer because you've got to get your message out."

Code reuse is one of the key benefits that a company can gain by adopting a service-oriented architecture, and Crew said his group has seen significant reuse, even though it doesn't have a formal strategy for publicizing its work.

The firm's asset management group, for instance, learned of the work that Crew's IDS department had done using a home-grown XML tool to expose CICS applications through Web services interfaces during a "lunch-and-learn" session, which the company routinely holds on a wide range of topics, including non-IT issues.

The asset management IT group subsequently invited its IDS colleagues to do a presentation about their Web services and Internet-based XML directory. The group later found services that it decided to use to gain access to more up-to-date data.

Merrill Lynch IT groups also have held technology boot camps, workshops, expositions and demonstrations and have e-mailed newsletters to keep their IT colleagues abreast of their Web services work.

Another key factor in the success of a service-oriented development effort is the commitment of the CIO or chief technology officer as well as having key sponsors on the business side, said Gator Lawal, director of the data and technology architecture group at Merrill Lynch.

Even though the initial champion of Merrill Lynch's Web services efforts, CTO John McKinley, left the company earlier this year, the effort hasn't lost any steam, according to the firm's IT executives. John Cummings, the new chief information and services officer, picked up the torch and continues to support the service-oriented approach, they said. "John leaving didn't really change much for us, because everybody had already [committed] at the higher level that this is the right direction to go," Lawal said.

Lawal himself has been instrumental in driving one of Merrill Lynch's most ambitious Web services projects, a wealth management system the company is co-developing with The Thompson Corp. Thompson, which is responsible for the Web front end, gains access to Merrill's back-end systems through a Web services framework.

To further the cause, Lawal said he compelled about 80 colleagues to participate virtually in an integration framework specification group that focuses on technology for the wealth management system.

– *Carol Sliwa*

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Storage Networking Industry Directory & Buyer's Guide

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The Storage Networking Industry Association (SNIA) remains dedicated to promoting the use of highly evolved, widely accepted storage networking systems across the IT community – systems that meet the demands of today's organizations and can cope with the projected requirements of future applications. This fourth annual Storage Networking Industry Directory & Buyer's Guide is intended to be the industry's most comprehensive listing of participants in both North America and Europe

The SNIA's relationship with Computerworld provides the latest information on storage networking and advanced storage technologies to IT users and vendors. Our collective vision is to remain the leading source of information, education and guidance for the industry by promoting the evolution and acceptance of industry standards among vendors, implementers and users. We endeavor to accomplish this by producing the highest quality industry conferences with our Storage Networking World® conference series in the United States, Europe and Asia.

This Storage Networking Industry Directory & Buyer's Guide, which includes member companies of SNIA, SNIA-Europe (recently unified with FCIA-Europe) as well as other leading Storage Industry participants, is yet another important component of our integrated industry information offering. We invite you to explore and consider the expertise, resources and storage solutions provided by the companies listed and profiled in this publication in both the North American and European sections.

Regards,
Sheila Childs and Paul Talbut

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The storage industry remains poised to provide strategic opportunities and technology advancements for the IT departments of worldwide organizations. IDC continues to project increased demand for networked storage solutions as the benefits of enhanced data management, data security and data availability are realized.

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Founded in 1992, Atempo delivers best-in-class storage software and services for the information protection and security of data-intensive companies. *(SAN)*

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ATTO Technology Inc., Amherst, NY, is a global leader in storage and storage-infrastructure solutions for direct-, network- and fabric-attached environments. The company's lines of Fibre Channel and SCSI host adapters, Fibre Channel bridges and hubs, iSCSI bridges, SAN software, and RAID storage arrays improve data availability, productivity and total cost-of-ownership. *(SD/S,SNI,DM,S)*

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Availant is a provider of professional and engineering services. The company's offerings include SAN and storage assessment, planning, design and implementation, data migration; availability assessment; HACMP cluster planning, design and implementation, validation testing; course development and delivery in AIX, clustering and storage, and development services across UNIX and Windows. *(SNI,DM,SRM,S)*

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Avamar Axion™ is a family of highly efficient, disk-based appliances for data backup, restore and disaster recovery. Axion systems reduce the scale of secondary storage by more than tenfold. Axion achieves this effective compression by eliminating redundant data across files and machines using a process called commonality factoring. *(SD/S,DM,S)*

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Tempe, AZ 85284
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Avnet Enterprise Solutions, with 25 years of experience, is a solutions integrator specializing in enterprise storage solutions including data protection and recovery and networked storage. As HP's Storage Partner of the Year, the company offers professional assess and design services and a hands-on SAN Center to ensure a "best practices" solution. *(SD/S,SNI,DM,SRM,OSM,S)*

BakBone Software
10145 Pacific Heights Blvd., Suite 500
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BakBone Software is a leading data recovery solution provider that develops and globally distributes data backup, restore and disaster recovery software for network storage environments. BakBone delivers scalable solutions that address the needs of large enterprise environments and small to medium-size businesses. *(SNI,DM,OSM,S)*

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Cloverleaf Communications' Intelligent Storage Networking System consolidates heterogeneous storage devices and centralizes the provisioning and management of capacity, bandwidth and superior, multi-protocol, data center services. Cloverleaf's system dramatically improves scalability, performance, business continuance and security yielding exceptional value, flexibility and productivity in enterprise-class IT environments. *(SNI)*

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CNT (www.cnt.com) is a global expert in cost-effective and reliable storage networking solutions. Businesses depend on CNT to improve their business efficiency and business continuity through increased data availability. CNT helps companies build end-to-end solutions through analysis and design, multi-vendor integration, implementation and ongoing remote management of the storage infrastructure. *(SD/S,SNI,S)*

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BrightStor solutions give companies the power to manage enterprise storage from a single location. BrightStor helps ensure the availability and integrity of your most valuable asset – data. CA's solutions maximize IT and storage resources, integrating with hardware and software and scalable for any sized business *(SNI,DM,SRM,S)*

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CreekPath's Storage Operations Management software suite is an end-to-end storage management solution that simplifies, stabilizes and secures the storage management process by enabling people to visualize and control their storage operations. The CreekPath Suite introduces an application level, policy-based management system and workflow-based automation to deliver comprehensive management control. *(SRM)*

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DataCore Software is an independent software vendor that consolidates and automates storage management for open systems. The company's SANsymphony™ software pools, caches and replicates storage from all the major array suppliers. Global 2000 enterprises use DataCore's innovative technology to centralize storage management. DataCore, headquartered in Fort Lauderdale, FL, is privately held. *(SD/S,SNI,SRM,OSM,S)*

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JVC manufactures the MC-8000 series DVD libraries in capacities of 470GB to 5.6TB. JVC's premier partner, Trident Tek, offers the first HSM Appliance for NAS connectivity of DVD libraries. The Appliance offers connectivity via dual 10/100 NICs and can also support optional Gigabit or Fibre Channel. For more information, www.tridenttek.com *(SD/S,DM,SRM)*

Kasten Chase *(SNIA)*
5100 Orbitor Dr
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905-238-6900
www.kastenchase.com

Knowledge Transfer
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Winfield, IL 60190
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Knowledge Transfer builds business-savvy storage and operations teams. The company is an IT architecture and management consulting firm. Using vendor neutral or specific approaches, it develops ITIL-based storage services, accounting for human factors. Leading storage vendors and their customers depend on the company for solutions and training. Knowledge Transfer empowers you *(SD/S,SNI,DM,SRM,OSM,S)*

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425-369-9842
www.lapis-solutions.com

LeftHand Networks
1688 Conestoga
Boulder, CO 80301
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LeftHand Networks re-defined shared network storage in 2002 with the introduction of the first full-featured IP storage area network (SAN). By building a SAN utilizing the existing Ethernet infrastructure, the LeftHand Networks solution eliminates the learning curve, expensive Fibre Channel components and complexity associated with Fibre Channel SANs. *(SD/S)*

Legato Systems *(SNIA)*
2350 W El Camino Real
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650-210-7000
www.legato.com

LightSand
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Milpitas, CA 95035
408-404-3165
www.lightsand.com

LiveVault Corporation
201 Boston Post Rd W
Marlborough, MA 01752
508-460-6670
www.livevault.com

LSI Logic Corporation *(SNIA)*
1621 Barber Ln.
Milpitas, CA 95035
866-574-5741
www.lsil.com

Lucent Technologies
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Lucent Technologies designs and delivers networks for the world's largest communications service providers and enterprises. Backed by Bell Labs research, Lucent Worldwide Services offers unmatched global capabilities for network professional services. Lucent enables end-to-end SAN extension solutions through a broad portfolio spanning FCIP, SONET/SDH, DWDM, security, network management and more. *(SNI,S)*

LXI Corporation
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Irving, TX 75039 ·
972-444-2323
www.lxicorp.com

Maranti Networks Inc. *(SNIA)*
3061-B Zanker Rd
San Jose, CA 95134
408-834-4000
www.marantinetworks.com

Maxtor Corporation
500 McCarthy Blvd.
Milpitas, CA 95035
408-894-5000
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MaXXan Systems Inc. *(SNIA)*
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McDATA is the expert provider of multi-capable storage networking solutions™ – hardware, software and services – that enable partners and customers to network the world's business data™. The company's innovation and experience are behind the success of the most demanding technology companies and their customers. *(SNI,SAM,S)*

Microsoft Corporation *(SNIA)*
One Microsoft Way
Redmond, WA 98052
425-882-8080
www.microsoft.com/storage

Molex Inc.
2222 Wellington Ct.
Lisle, IL 60532
630-969-4550
www.molex.com

Molex is a global provider of electrical and fiber optic connectors, complete system solutions, heat sinks, membrane switches as well as application tooling for a wide variety of industries. *(SD/S)*

MonoSphere Inc.
101 Redwood Shores Pkwy., Suite 210
Redwood City, CA 94065
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MonoSphere Storage Manager™ delivers to enterprise customers the ability to centrally visualize, utilize, protect and optimize storage efficiently and automatically across all open systems storage vendors and architectures. By giving enterprises maximum understanding and control over their storage MonoSphere provides significant cost savings by directly eliminating unnecessary storage capital expenditure *(SRM,OSM)*

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512-339-8335
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Tustin, CA 92780
714-481-7800
www.mti.com

Neartek *(SNIA)*
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Westborough, MA 01581
508-475-3300
www.neartek.com

NEC Corporation *(SNIA)*
101 E. 52nd St.
New York, NY 10022
800-338-9549
www.nec.com

Neoscale *(SNIA)*
1500 McCandless Dr
Milpitas, CA 95035
408-586-1300
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NetScout Systems Inc.
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NetScout's nGenius® Performance Manager, combined with nGenius LAN, WAN and SAN probes, delivers a complete set of capabilities for managing the performance of critical enterprise networks and applications. For storage environments, the nGenius solution monitors protocols and traffic for NAS, Fibre Channel SANs, iSCSI and IFCP in order to optimize performance, troubleshoot interoperability and manage bandwidth demand. *(OSM)*

Network Appliance Inc.
495 E. Java Dr
Sunnyvale, CA 94089
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Rob Salmon, Senior Vice President, Worldwide Sales
408-822-6000

Since its inception in 1992, Network Appliance has delivered technology, product and partner firsts that continue to drive "The evolution of storage™." The company's enterprise storage solutions offer customers seamless data management, simplified backup and recovery, and effortless remote office access to data at the lowest cost of ownership. *(SD/S,SM,DM,SRM,OSM,S)*

Network Executive Software (NetEx)
6420 Sycamore Ln. N., Suite 300
Maple Grove, MN 55369
763-694-4300
www.netex.com

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NetEx is the global leader in high-volume, high-speed data transport. NetEx's newest product, HyperIP, is the first and fastest product of its kind, accelerating data movement up to 10X, solidifying the value of remote IP storage The implementation and operation of HyperIP is simple as well as transparent and non-disruptive to ongoing operations. *(SN)*

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408-519-3700
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8200 Dixie Rd., Suite 100
Brampton, Ontario Canada L6T 5P6
905-863-0010
www.nortelnetworks.com

Novell *(SNIA)*
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Provo, UT 84606
801-961-7000
www.novell.com

nStor *(SNIA)*
6190 Corte del Cedro
Carlsbad, CA 92009
760-683-2500
www.nstor.com

Nth Generation Computing Inc. *(SNIA)*
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San Diego, CA 92127
800-548-1883
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OnStor Inc.
1308 Knowles Dr
Los Gatos, CA 95032
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www.onstor.com

Overland Storage Inc.
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Overland Storage Inc. (NASDAQ: OVRL) is a leading global supplier of innovative hardware and software storage solutions for computer networks. The company's reputation for delivering high-availability products, including its award-winning Neo Series™ tape libraries and storage resource management software solution, sets the standard for intelligent, automated storage and scalability. For more information, visit www.overlandstorage.com. (SD/S,SRM,OSM,S)

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952-946-4100
www.plasmon.com

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Princeton Softech, the pioneer and leader in database archiving technology, delivers software products that help enterprises "store smarter" to maximize the performance and availability of mission-critical applications and databases. Princeton Softech's Active Archive™ Solutions enable companies to manage rapidly growing databases, reduce costs and achieve a greater return on investment. (DAM)

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Andover, MA 01810
978-684-3000
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QLogic Corporation
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Over 45 million QLogic products have shipped inside servers, workstations, RAID subsystems, tape libraries, disk and tape drives. Powering solutions from the industry's leading storage network providers, QLogic's broad line of controller chips, host bus adapters, network switches and management software move data from storage devices through the network fabric to servers. (SN/SRM)

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Simi Valley, CA 93063
805-583-7744
www.qualstar.com

Quest Software
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Irvine, CA 92618
949-754-8000
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Quantum

Quantum
P.O. Box 57100
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Quantum is a leader in automated tape libraries and disk-based enhanced backup solutions used to manage, store and transfer data. From the desktop to the data center, Quantum offers the reliable products and proactive services that give customers confidence in their data. Products include: L-Series, M-Series, P-Series and DX-Series. (SD/S,SAN,OSM,S)

RainFinity
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RainStorage is an award-winning NAS management appliance that enables administrators to move data, including open files, between storage devices without any disruptions to applications or end-users. RainStorage supports multi-protocol environments, including CIFS and NFS, and provides for data mobility between storage devices reducing the cost of storage management and improving utilization. (DAM,SRM,OSM)

SAN Valley Systems
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San Jose, CA 95119
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SAN Valley Systems is focused on delivering high-performance products that enable the seamless deployment of advanced Storage Area Networking solutions into enterprise, service provider and carrier markets worldwide. Our products interoperate with best-in-class networking, SAN and optical technologies to provide end-to-end storage networking solutions. (SD/S,SAN,DAM,SRM)

Once again, data is undergoing radical changes. But this time, it's not only about what gets created, it's where and how it is protected. Whether it's an individual, workgroup, department or enterprise, you can back up every last digital bit on Snap storage and file server solutions. Easy to implement, easy to install and easy to manage. In fact, one out of every two Network Attached Storage installations in the world and over half of the Fortune 500 rely on Snap servers to protect their critical information. www.snapappliance.com

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603-766-2700
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Dave Bell, Director Inside Sales Operations
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Sandial is a pioneer in the development of connection-oriented storage network backbone solutions. Sandial's storage switching solutions, combined with a comprehensive management system and a full suite of professional service offerings, provide unprecedented levels of network visibility and control, enabling enterprises to better align corporate information assets with business goals. *(SN)*

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408-734-6000
www.sanera.net

SANgate Systems *(SNIA)*
144 Turnpike Rd.
Southborough, MA 01772
508-490-7900
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510-521-2424
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SANRAD V-Switch 3000 is the industry's first iSCSI Storage Area Networking platform, capable of extending high-speed iSCSI connectivity to any FC/SCSI storage system with comprehensive network-based management services in an integrated network device, delivering multi-layer intelligent storage switching, high availability and security. *(SD/S,SN,DM,SRM,OSM,S)*

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3945 Freedom Cir
Santa Clara, CA 95054
510-435-0567
www.satyam.com

Seagate Technology *(SNIA)*
920 Disc Dr
Scotts Valley, CA 95067
800-SEAGATE
www.seagate.com

SGI *(SNIA)*
1600 Amphitheatre Pkwy
Mountain View, CA 94043
650-960-1980
www.sgi.com

Silverback Systems *(SNIA)*
695 Campbell Technology Pkwy., Suite 150
Campbell, CA 95008
408-376-1300
www.silverbacksystems.com

SnapAppliance

Snap Appliance
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Snap Appliance, a worldwide leader in storage management, provides simple, scalable network attached storage solutions for its customers – from the workgroup to the enterprise – solving their needs today with a seamless migration to the future. *(SD/S,SN,DM,SRM,S)*

SOFTEK

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Softek delivers award-winning automated storage resource management (SRM) solutions operating across more vendors and platforms than any other SRM software. Softek customers optimize and simplify the management of complex, multi-vendor storage infrastructures via action-based automated resource management to achieve better-utilized storage, more productive staffs and greater application availability. *(DM,SRM)*

Solutioneering

Solutioneering LLC
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Solutioneering helps companies properly position and launch products to jumpstart sales. It also helps established companies accelerate revenue using proven channel auditing, partnering and training tools. Whether it's selecting verticals or recruiting the top partners, all in pursuit of increasing revenue – they've been there and they can help you! *(S)*

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SONY

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Sony Electronics Inc.
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Sony's Data Systems Solutions Group is a provider of various formats of computer tape drives (AIT, DTF® and our new SAIT-1) and automated tape libraries (PetaSite® Series). These products offer a wide range of data management capabilities to fit a variety of computing applications. Visit the website: www.sony.com/datasystems or call 800-829-7669 *(SD/S,DM)*

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412-968-9110
www.spinnakernetworks.com

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Storage Concentrators, IP-based storage provisioning appliances that enable mid-sized to large enterprises to manage and optimize their storage assets in real-time. *(SD/S,SN,DM,SRM,OSM)*

Storability Software
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Southborough, MA 01772
508-229-1700
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Storability's Global Storage Manager software centralizes the management of multi-site, multi-vendor storage infrastructures within enterprise companies at every level, from discovery through "just-in-time" provisioning. This innovative technology gives companies control over their heterogeneous storage environments, enabling them to increase asset utilization, maximize productivity and reduce cost of ownership. *(SRM)*

Storactive
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Marina Del Ray, CA 90292
310-302-7280
www.storactive.com

Storage Engine *(SNIA)*
One Sheila Dr
Tintan Falls, NJ 07724
732-747-6995
www.storageengine.com

StorageQuest Inc.
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613-831-6919
www.StorageQuest.com

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John Jagelsky, Manager, U.S. Channel Development
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The MSM 100 transforms an optical library into a network appliance. Attaching the library to the network through an MSM 100 provides secure and inexpensive archiving, and easy and quick access to archived files. To a user, media in the optical library looks like a network drive. *(SD/S,SM,DM,SRM,S)*

StorageTek
One StorageTek Dr
Louisville, CO 80028
800-877-9220
www.storagetek.com

StorageTek, a $2 billion worldwide company headquartered in Louisville, CO, delivers a broad range of storage solutions that are easy to manage, integrate well with existing infrastructures and allow universal access to data across servers, media types and networks. StorageTek provides practical and safe storage solutions in disk, networking, services, tape and tape automation. *(SD/S,SM,DM,SRM,OSM,S)*

Storigen Systems Inc.
650 Suffolk St.
Lowell, MA 01854
978-323-4454
www.storigen.com

StorScape
625 Ellis St. Suite 201-B
Mountain View, CA 94043
650-968-2562
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Bob Anderson, Business Development - Canada
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386 1 5865 356
Dusan Strakl, Business Development - USA
650-968-2562

StorScape integrates the concepts of SRM, data classification and data life cycle management for managing corporate data according to their business value. BSM for File Systems provides sophisticated data growth control, while BSM for Email is an integrated data life cycle management solution for MS Exchange environments. *(DM,SRM)*

StorServer
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Colorado Springs, CO 80907
719-266-8777
www.storserver.com

Sun Microsystems *(SNIA)*
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800-555-9SUN
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Syncsort Inc.
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Backup Express is an enterprise-wide backup and restore solution that supports a variety of technologies, including NAS, NDMP, SANs, clusters and more. Its distributed architecture allows backups to any device in the network running UNIX, Linux, Windows or NetWare, while maintaining just one central catalog for the entire enterprise. *(DM,SRM)*

Tek-Tools Inc. *(SNIA)*
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Dallas, TX 75244
972-980-2890
www.tek-tools.com

TeraCloud Corporation
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TeraCloud Corporation enables Fortune 1000 companies to manage distributed and mainframe storage and mission-critical data for DAS, SAN and NAS environments, down to file-level detail. TeraCloud's enterprise-wide software solution is hardware independent, integrating the management of UNIX, Windows, Linux, OS/390, NetApp and Netware from a single console. *(SRM)*

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Steve Apfelberg

Steve Apfelberg is Senior Director of Sales at Siebel Systems. His responsibilities include setting the business strategy for the Siebel Sales product line and working all aspects (sales, marketing, partners, customers) to achieve business goals. Furthermore, Steve is responsible for messaging around the product line, identifying key best practices and business processes and helping get them built into out-of-box product. Steve holds a Bachelor's Degree in Economics from Stanford University.

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A few minutes with Steve Apfelberg, Senior Director, Siebel Sales

Sales Force Automation

> What do you find is driving the adoption of SFA applications today?

Whereas primarily early adopter clients purchased SFA in the first couple of years that SFA applications existed, companies across all industries are purchasing them today. While the profile of companies that purchase these applications has changed, the drivers remain the same: to enable companies to grow revenue more quickly, predictably and profitably. In today's economic conditions, reaching that goal is more crucial than ever. Since the SFA application market is more mature, customers have higher expectations for the software against tighter budgets than ever before.

"SFA applications enable sales professionals to spend more work time on selling."

> What benefits can companies achieve through the implementation of SFA capabilities?

SFA applications enable sales professionals to spend more work time on selling by reducing the amount of time it takes to handle administrative tasks. As a result, companies can expect revenues to grow more quickly, predictably and profitably because SFA applications enable sales professionals to focus on the right deals at the right time. In addition, SFA applications can help professionals identify cross-sell and up-sell activities in accounts, which enables then to increase revenue per customer.

> What are companies looking for in terms of next-generation SFA capabilities?

In addition to operational capabilities, customers are now looking for analytical functionality that allows them to perform tasks such as:

- Pipeline Analysis: the ability to look at the sales pipeline from a number of angles.
- Team Performance/Sales Effectiveness Evaluation: the ability to evaluate the performance of a given representative, or groups of representatives, by region, sales team, etc.
- Territory Insight: the ability to perform analysis on how the salesforce is doing by territory, or compare one territory to another.

> How should companies approach an implementation?

First off, the customer should begin by appointing an executive owner of the project. Next, it is important to conduct a business process review and make business process changes before implementing. Once it is time to proceed with implementation, we recommend implementing broadly before deeply; for example, deploying limited functionality to all of the channels that support a particular type of customer. Finally, it is important to remember that one size does not fit all.

> What are some methods to increase user adoption of a new SFA system?

One thing that is critical is full executive adoption of the SFA system. Unless the sales force sees that executives are also using the SFA solution, they are likely to view the system with skepticism. Executives should strive to make the SFA system the primary means by which the organization communicates about sales opportunities; the system should become as integral to business operations as the telephone, voice mail and email.

> What best practices/business processes are typically built into SFA applications?

Business processes that support common sales functions such as lead routing, opportunity management, forecasting, territory and quota setting and alignment are core to SFA applications. Some applications, however, have gone so far as to build best practices for these processes into their software. For example, Siebel's triangulated forecasting functionality enables customers to use that best practice for the forecasting business process. Additionally, some SFA applications include functionality around selling methodologies—such as target account selling—that support companies that use these methodologies.

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Mercury Broadens IT Management Line

BY LINDA ROSENCRANCE

Mercury Interactive Corp., known primarily as a vendor of software testing tools, last week announced a broader line of products for automating the process of managing IT systems and operations.

The expanded offering includes integrated sets of software and services targeting IT governance, software quality control, performance management and application availability (see box). Zohar Gilad, vice president of products at Mercury, said the Sunnyvale, Calif.-based company has added new tools and reorganized its existing ones to fit the four product groupings.

Gilad said Mercury is focusing on three strategic IT functions as part of the broadened Business Technology Optimization product line: governing IT departments and managing project portfolios, the delivery of applications to corporate business units, and managing systems to make sure they work properly.

AutoOne Insurance, a startup in Melville, N.Y., turned to Mercury's tools last year to expedite the setup of its applications. Virginia Linick, AutoOne's vice president of IT, said her staff had just eight months to do the job and had to get it right the first time.

Linick licensed some of Mercury's quality control and performance management tools and brought in staffers from the vendor as consultants. Mercury helped AutoOne buy equipment, made recommendations on how to size the systems and tuned the applications to meet performance targets, she said.

David Wollin, managing director of emerging technologies at AXA Financial Inc., said his company has used Mercury's testing tools for four years. "It's helped out the business by improving the [applications] we actually deliver to our customers and to our employees," he said. "And the quality of the product is better on Day One."

By using the automated testing tools, New York-based AXA has also sharply reduced the time and the amount of IT resources needed to get applications out the door and into the hands of end users, Wollin added.

"Instead of having 12 people worrying about testing, I've got three or two," he said.

Mercury bought its IT governance tools through an acquisition of Sunnyvale-based Kintana Inc. that was completed in August. Glenn O'Donnell, an analyst at Meta Group Inc. in Stamford, Conn., said the software automates the management of IT procedures — "not so much dealing with the nuts and bolts but the actual operational processes."

Depending on which pieces of the four product sets a customer licenses, pricing could range from $15,000 to millions of dollars, said Christopher Lochhead, Mercury's chief marketing office. 41641

ANNOUNCEMENTS

Mercury's New Product Lineup

IT GOVERNANCE CENTER: Software originally developed by Kintana for managing IT strategies, resources and project portfolios

QUALITY CENTER: Application and business-process testing tools designed for use by quality assurance teams

PERFORMANCE CENTER: Supports load testing, performance tuning, application diagnostics and capacity planning on business systems

BUSINESS AVAILABILITY CENTER: Provides centralized management of application availability and IT service levels

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CA 'Needs to Think Bigger,' New Exec Says

Product development chief Barrenechea talks about life after Oracle

BY MATT HAMBLEN, MARC L. SONGINI AND DON TENNANT

Mark Barrenechea *became senior vice president of product development at Computer Associates International Inc. in June after leaving his previous position as a senior vice president and a member of the executive management committee at Oracle Corp.*

Barrenechea, who exited Oracle on the day the software vendor announced its hostile bid to acquire rival PeopleSoft Inc. — a coincidence, he says — spoke last week with Computerworld *about his first 100 days at Islandia, N.Y.-based CA. Excerpts follow:*

Is there anything about Oracle's corporate culture that you're trying to instill at CA? The thing I liked about the Oracle culture is it's a big company, and it dominates in particular spaces. CA needs to think bigger in many, many ways. So if there's one aspect of the Oracle culture that I want to replicate, it's to think big. We can change a lot of things with an integrated suite of management software.

Conversely, is there anything about CA's culture that you think would be useful at Oracle? CA has a very unique culture. It's a collegial environment, which is a breath of fresh air. You can share ideas in an open forum; you can debate in an open forum. He who yells loudest isn't the one that's heard — it's a good way to run a company. I'm not suggesting Oracle isn't run that way, but perhaps not as much so.

Sun Microsystems recently introduced a per-employee software pricing plan [QuickLink 41523]. What's CA doing to make life easier for IT managers in this area? Pricing is complicated. Sun is making it as simple as they can, which is a good thing.

You look at Microsoft — one of the things that frustrates me about Microsoft pricing is we have 16,000 employees at CA. Each one licenses Office, but at any given time, maybe 11,000 to 13,000 employees are using it. So my high-water mark for using Microsoft software is a good 30% to 40% below what I'm paying. And I don't like it. That cannot stand over time. The Microsoft model has to change.

CA took some very aggressive moves two and a half years ago when we moved to usage-based pricing. We believe that the best way to charge for software is based on what [customers] use.

We made that transition. Microsoft hasn't made it; Oracle hasn't made it; IBM hasn't made it. Sun looks like they're starting to make that transition in the one lever they know how to pull, which is per-employee. I think you'll see more of this in the industry, because CIOs will demand it.

How important is Linux in CA's product strategy? If you look at the IT infrastructure of the future, you can easily envisage three major platforms: big-iron, enterprise-class mainframes for data protection and transactions; [Windows] NT for domain access, security, e-mail and maybe some file sharing; and large-scale Linux clusters for storage and applications. Linux is fast and inexpensive; it's relatively easy to manage. Clustering is getting simpler and simpler, to make 100 Linux machines look like one.

Unix is conspicuous for its absence from your list. What's the future of Unix? It's Linux. I firmly believe it. I think we're one to two years away from massive Linux clusters becoming the second or third [most] prominent architecture within an IT infrastructure. ◗

CA Ships First Piece of Sonar Technology

Starting to deliver on the automated management tools strategy it announced in July, Computer Associates has quietly begun shipping new software that's designed to collect information about network traffic and then analyze the data for IT managers.

The Unicenter Network Forensics product is one of the initial components of Sonar, a planned set of tools partly based on software that CA acquired from defense contractor Raytheon Co. in Lexington, Mass., during the summer.

CA demonstrated Sonar at its CA World 2003 user conference and said the technology will support on-demand computing installations, in which servers can be dynamically allocated to run different applications as data processing needs change [QuickLink 39965].

Unicenter Network Forensics became available earlier this month.

Mark Barrenechea, CA's senior vice president of product development, said the software can send reports about the network data it gathers to CA's Unicenter management console for use by IT administrators.

CA is also working on a related product called Unicenter Network Diagnostics, which is due next year. The diagnostics software will be designed to examine network traffic patterns in real time and compare them with historical data in order to establish performance benchmarks, Barrenechea said.

A third product in the wings is Unicenter Business Process Maps, which will give IT workers a graphical view of their corporate computing resources. That application should be ready for release in the first half of 2004, Barrenechea said.

Clark Ammons, a production and systems manager at Washington University in St. Louis, said he has yet to fully research the Sonar products to see if IT officials at the school can justify a purchase of the technology.

But, he added, the mapping tool sounds particularly interesting. "I'm a visual person," Ammons said. "I like to see things."

However, Amy Wohl, an analyst at Wohl Associates in Narberth, Pa., said potential users may be confused about how Sonar technology fits with CA's existing Unicenter suite.

"The fact is, there are lots of tools from CA, IBM and HP to analyze data," she said. "So IT managers will have to figure out how Sonar works and how to use it with old tools, or which ones to replace."

– Marc L. Songini and Matt Hamblen

MORE ONLINE

To read the full interview with Barrenechea, go to our Web site:

QuickLink 41598
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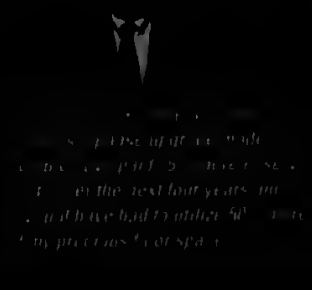

Many IT professionals have switched from an inflexible proprietary system to network critical physical infrastructure.

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InfraStruXure™ is the Key to Stronger NCPI

by Russell Senesac
InfraStruXure Product Manager

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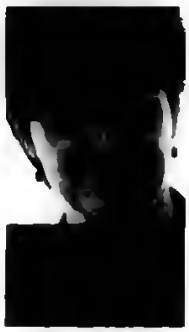
MARYFRAN JOHNSON

The Innovation Quest

EVERYBODY LOVES to talk about innovation, but try finding two people who can agree on exactly what it is. That was probably the case back in 1548 when the word first surfaced in the English language. Yet here we are, centuries later, still poking around on this eternal innovation quest.



Is innovation a great new idea, a more creative approach or anything novel enough to create value or competitive advantage? Google the word and you get 10.2 million hits, so there's an endless loop of information and opinion about it. But the question that keeps surfacing in this anemic economy is whether we should be worried about the health or even survival of the innovative IT spirit.

Are we stuck in the status quo?

Our lead story in this week's Management section ("Innovation Interruptus," page 41 and online at QuickLink 41357) does make the point that IT innovation — the sort that brings about real change in computer systems or business processes — has taken a beating in the budget drought. We conducted an online survey among 106 IT professionals, and 70% of them said they had watched innovative projects get dropped by their departments in the past two years because of cutbacks. Instead of pushing new IT investments, 51% of our survey respondents said they're focused on making existing technology more cost-effective as they re-engineer business processes.

This batten-down-the-hatches approach has vendors like Microsoft raising alarm about an "almost dangerous complacency about innovation," as CEO Steve Ballmer put it in a recent speech. I suspect he's more worried about Microsoft's bottom line than the future of innovation, but you can't blame him for wanting to draw attention away from the relentless publicity about Windows security flaws.

In the meantime, there are signs of innovation bubbling up in certain segments of the industry, if our Innovative Technology Awards 2003 [QuickLink a3630] are any indication. We found technologies being creatively applied just about everywhere: Web site and data management, CRM, wireless, security, networking, storage, enterprise systems, application development and supply chain. Most important, the nominations for these awards came directly from IT managers and end users, not from vendors' skilled spinmeisters.

Last year, our awards program drew 200 nominations. This year, we nearly doubled that with 350 nominations. Doesn't look like such an innovation drought, does it?

In 2002, most of the innovative technologies centered on products with clear and measurable ROI, immediate payback or customer satisfaction boosts. This year, the definition of innovation broadened in scope. It moved outward to areas like regulatory compliance tracking, reliance on open standards as a way to cut costs, reducing complexity, optimizing business processes or providing data access through multiple channels.

One winner was the OneBridge Mobile Platform from Extended Systems Inc., which enables a variety of mobile devices to access corporate data and applications in real time. The product put wholesale food distributor M.R. Williams Inc. in a position to outrun its competitors with a unique inventory management tool. That led to a 34% increase in sales. IT director Jane King quotes her CEO, Mike Williams: "We can compete on price or service or fast delivery, but everyone else is doing the same sort of thing."

And doing the same sort of thing is status quo, which nobody has trouble defining. So perhaps the truest definition of the innovation quest these days is this: whatever gets you to the flip side of the status quo, into genuine change and accomplishment. **41635**

When the idea for offshore outsourcing took root.

PIMM FOX

Extend And Win

THE REAL nitty-gritty of enterprise application integration is the notoriously difficult task of opening up legacy systems to distributed end users. The problem isn't so much that legacy applications are cumbersome to use. Rather, the ability to centrally manage your applications, deploy new ones to users and make on-the-fly modifications to up-and-running applications poses stumbling blocks for IT managers whose companies run business logic at the edges of their networks.

Another problem is that developers familiar with Java, .Net and other object- and/or service-oriented languages may have little experience with Cobol and other mainframe languages. Yet business requirements necessitate that these barriers between developers be torn down. EAI solutions must come with tools and a user interface that interacts with the host so developers can understand what an application on the host does, without having to know how it works.

New tools — connectors, if you will — from IBM, NetManage Inc. and Attachmate Corp., for example, make it possible to turn Cobol-based transactions into Web-accessible functions. When using these connectors, there's no need to change the legacy applications. The process involves delivering host-based information as XML, Enterprise JavaBeans or COM+ (or any other component technology), making it simple for applications to use.

Think of it as marketing the application internally, letting developers communicate what's available.

That was the rationale behind work at Poste Italiane, Italy's national postal service. R&D director Alessandro Saralli said they were looking for fast implementation, configuration and personalization (it took less than a week for a proof of concept) and a standard Web development language. This pointed Poste Italiane toward Bellevue, Wash.-based Attachmate's Connector

Services and Smart Connector.

Saralli wanted to give every post office in Italy access in a Web-ready format to an existing bank-account application. His goal was to tie the venerable OS/390 system at headquarters to the Visual Basic environment in each post office. This VB world had its own business logic, which had to be synchronized with the mainframe in order to use the application. It was too complex, so no one ever did it. Using Smart Connector technology, his developers were able to remap the mainframe's business logic to every local server. That means the remapping had to be done only once and from headquarters. Now the application is in wide use.

As business process becomes more complex and demanding, IT has to find a way to respond by reaching into the rich asset base of legacy applications. Using connector technology to expose functions to Web-based clients is a valid and proven approach. **41549**

DAN GILLMOR

Open-Source Under Fire

A LITTLE MORE than two years ago, a senior executive at Microsoft made an implicit threat against the open-source movement. Open-source software, he suggested, might violate his company's intellectual property.

It was a threat to take seriously, because intellectual property laws have always been the snake in the grass when it comes to open-source's long-range viability. For IT, the question is whether there will be any refuge from a world dominated by a few greedy, arrogant giants if open-source becomes a tool no one dares to use. The signs aren't good right now.

So far, Microsoft hasn't directly carried out that threat. That dubious distinction has fallen to the widely loathed SCO Group, which has launched a campaign of fear, uncertainty, doubt and lawsuits against Linux.

Indirectly, of course, Microsoft (and Sun Microsystems) are helping SCO by paying licensing fees that have helped fund SCO's legal pit bulls. By an amazing coincidence, Microsoft and Sun have the most to lose from Linux's rise.

A key question, yet to be answered, is whether users can be held liable if an open-source developer does put infringing code into a product. (Keep in mind that SCO hasn't persuasively shown such infringement.)

If so, the logic that puts users in that position is bizarre — and dangerous. If I buy a book whose author has plagiarized passages from someone else, I'm not liable. Nor should a user of open-source software be liable in analogous circumstances. That's one reason why SCO's threats against users are so obnoxious.

SCO's action against IBM at least has some logic in this respect, because SCO is attacking an allegedly infringing developer and seller of open-source products. But what happens when proprietary software companies start suing individual contributors to big open-source projects?

Anyone can sue anyone else. That's a good thing, because it means (in theory) that the small guy can seek justice. But today's legal system isn't as much about justice as it is about money and time. Many innocent defendants settle because it would be too expensive to mount a winning defense, however unfair that may be. This keeps happening in part because judges have shown a craven unwillingness to punish plaintiffs who bring bogus actions.

IBM can defend itself, and the open-source community is doing a bang-up job of showing that SCO's would-be emperor has yet to put on any clothes. But if IT wants to preserve open-source as a serious option, more concerted action may be required, because this kind of stuff seems likely to continue no matter what happens to SCO.

IT needs to push for more legal clarity — and for judicial sanctions against abusers of intellectual property laws. The future of open-source may depend on it. **41545**

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READERS' LETTERS

On Incoming Grads

IN READING Thomas Hoffman's article "Preparing Generation Z" [QuickLink 40537], it occurs to me that I haven't met an IT graduate in the last 10 years who has taken fundamental courses like data structures or operating systems. The article contends that IT graduates need more business knowledge; I say they need more technical basics. Ask today's graduate what a stack or a queue is, and you'll be met with a blank stare. Colleges and universities need to get back to high academic standards. Business people need to learn how to articulate business needs. IT people need to learn how to interpret those needs. Instead, academia tries to be profitable, business people try to understand IT, and IT people try to learn about business. The solution is simple: Know your business, stick to it, and do it well.

John Regep
Manager, systems development, St. Louis Park, Minn., johnregep@aol.com

HAVING JUST graduated with my master's degree in management, I would like to offer a student's perspective on the article "Preparing Generation Z." Technology and business requirements change so fast that it isn't possible for academia to react. If students' course requirements were to constantly change with the whims of business and the IT industry over a four-year period, students would never be able to meet the *current* requirements to graduate. Even a two-year master's program can be dated by the time the student earns the degree. How many graduate students started their graduate programs in 2000 when e-commerce was still the rage, only to find out in 2002 that systems integration was the new skill companies wanted?

Jon J. Banks
Powder Springs, Ga. pilot@ILoveToFly.org

THE LAST THING we need is an army of project managers coming out of school who know nothing about logic, mathematics, language theory, philosophy, etc., and everything about schedules and staffing.

Roland Trevino
First vice president, MBNA Corp., Newark, Del., Roland.Trevino@mbna.com

IT'S LAUGHABLE to read that CIOs assert that universities "shouldn't be teaching to a particular technology." Never in my life have I seen a job advertisement that didn't demand knowledge of a particular technology, and usually it's at least a dozen particular technologies.

As an IT professional, I agree that every technology can be learned in a short time by a well-educated professional. The thing is, this reasoning will hardly ever get you a job. Just ask your CIO how many people he's hired lately who understood software engineering methodology but hadn't learned Java or C++. Or how many people he's hired because of their communication or analytical skills. All this is nothing but Sunday talk. In my experience, managers never know what they really expect from university graduates. Blaming universities for not doing a good job is just an easy excuse.

Toni Menninger
Quebec

Grimly Funny

MARK HALL'S ARTICLE about looking for new places to outsource was really funny [QuickLink 40663]. He quotes someone who says we should look to Egypt, Jordan and Lebanon. Good plan. According to the latest terrorist report, Egypt harbors three known terrorist groups, Jordan one and Lebanon 11.

Donna Shean
Atlanta

Wasted Automation

THE ARTICLE "Drugstores Embrace E-prescription System" [QuickLink 40811] includes this statement from Jim Smith of CVS Inc.: "But even more important is the expectation that automating the prescription process will reduce medical errors and free pharmacists to spend more time with customers." I don't have much faith in that. In my experience, automating such tasks only makes detecting errors somebody else's job. And as far as giving pharmacists more time with customers: No, it will just mean that more work for them will arrive faster, because there's another path besides the store door.

I hate to be pessimistic, but I've just spent the last two or three years (I've lost track of time) implementing an electronic patient record system for a 30-physician practice that has over 50,000 patients. However, don't let my attitude affect your reporting; you are doing an excellent job. It's just that sometimes people make ridiculous claims for the improvement in lives that computer automation can make.

Geof Rarick
Database/network administrator, Thoracic & Cardiovascular Institute, Lansing, Mich., grarick@tciheart.com

No to Muckraking

THE ARTICLE "Blaster Worm Linked to Severity of Blackout" [QuickLink 40999] was poor journalism. By the author's own admission, he can verify little as factual. The danger is that some will take this unsubstantiated message as gospel and drag the virus writer, Microsoft and the utilities through the muck.

Jim Johnson
Owner, Serenity Consulting, Laurium, Mich.

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Solid Boost to I/O Speed
Solid-state disk appliances promise to boost the performance of deskbound applications, but high cost has limited their adoption. **Page 32**

FUTURE WATCH
Supercomputing Horizons
Ford Motor Co.'s Vincent F. Scarafino says that without government help, the U.S. will fall behind in supercomputer technology, and the country's science and industry will suffer as a result. **Page 33**

Expanding Roles for Identity Management
As applications and users multiply, companies are turning to ID management software to improve access to applications, password management and the provisioning of resources. **Page 34**

Growing Into a DATA CENTER

As this health care provider expanded, it moved to solve scalability problems by building a high-availability data center. By Robert L. Mitchell

FIELD REPORT

TO CALL THE CHALLENGE facing Mark Flieger a scalability problem would be an understatement. When he came aboard as vice president of information services at Occupational Health + Rehabilitation Inc. three years ago, the Hingham, Mass.-based health care provider had nearly $60 million in revenue, 35 offices from Maine to Missouri, 550 employees, a double-digit growth rate — and a centralized software application running the core business built on top of dBase and MS-DOS.

OH+R owns and manages occupational therapy clinics that treat many patients with on-the-job injuries. Its information system must deal with patients as well as with the employers that are the payees under state workers' compensation laws. As OH+R expanded to more states, the company had stretched its software, Systoc, from Occupational Health Research Inc. in Skowhegan, Maine, to its limits.

OH+R had never upgraded its copy of Systoc to a newer, more network-friendly client/server version. As a result, the dBase version performed poorly over the WAN links connecting OH+R's offices. To work around that, OH+R added Citrix Systems Inc. MetaFrame servers, which ran user application sessions locally and sent only screen images and keystrokes back and forth to end users over the WAN. But Systoc wasn't designed to scale beyond a single state, so the business ended up creating and maintaining 13 separate databases as it grew.

"We've had all kinds of business issues around maintaining 13 data stores," Flieger says, not the least of which has been the need to maintain multiple sets of reports — more than 1,000 of them — due to duplication across databases. "Enterprisewide reporting was not possible," says CEO John Garabino.

Billing couldn't run reports efficiently across the databases, and differing database schemas and payer-identification naming conventions made even manual reporting difficult, says Patti Walkover, vice president for contracting and reimbursement. And those reports that the staff could run bogged down system performance, says Flieger. "It doesn't take too many reports to slow down a transaction system, and people in the clinics would really feel that," he says.

Managing the system for high availability was difficult. "Our data center was more like a suite in an office building," Flieger says. "All the inherent maintenance of the back end was problematic." But since every office depended on the system for patient scheduling and billing, availability was a priority.

Today, OH+R has built its first high-availability data center in nearby Norwell, Mass., and it's slowly consolidating its offices onto a new client/server version of Systoc. The new software includes a clustered SQL Server 2000 back end with a separate SQL Server data mart designed to speed financial reporting and move report generation off the production system. The client software, written in Visual Basic, is served up to Wyse 8235 Windows thin-client terminals by way of a MetaFrame XPe server farm.

Remote offices connect through frame relay over Asynchronous Transfer Mode WAN links, while remote workers equipped with laptops can access the system over the Internet through an integrated MetaFrame Secure Sockets Layer virtual private network feature called Secure Access Manager. Two years into the project, Flieger has offices in three states cut over to the new system. He hopes to have the rest of the offices switched over by year's end.

First Steps

Flieger started the process by reviewing Systoc. Occupational Health Research had a newer client/server version, but he was skeptical that the vendor, a small company used to dealing with small clinics, could support OH+R's growth plans. But only one other small vendor had the capabilities he needed. "There are some unique business rules that cause us not to be able to use mainstream practice manage-

FACT SHEET
Migrate practice management system from 13 nBase databases to a single data store. Build high availability data center; minimize bandwidth requirements across frame relay network.
Use thin clients and Citrix MetaFrame server farm front end with back end SQL Server database. Use Fibre Channel storage arrays and RAM disk to maximize database performance and packet routing appliance to optimize WAN bandwidth.
$1.6 million, including $400,000 in server gear.
Improved reliability and uptime; consolidated 13 databases into one, which reduced redundant reports and enabled comprehensive automated enterprisewide reporting for the first time.

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Infrastructure Basics

Next, Flieger turned to the infrastructure. He presented his case to Garabino for building a high-availability data center and began planning a highly redundant systems architecture that included uninterruptible power supplies and backup generators. He also wanted to keep the thin-client system in order to minimize field-support demands on a staff of seven.

"We're trying hard to keep servers out of our edge sites because of remote management issues," Flieger says. And he wanted to keep WAN costs, already more than $500,000 per year, under control.

Paul Venezia, senior engineer at Keene, N.H.-based IT service provider IniNet Inc., had something that seemed to fit: a Compaq-commissioned design for a high-availability application service provider reference architecture based on Citrix's MetaFrame XPe. IniNet agreed to adapt the design to OH+R's needs.

The new design stresses availability and addresses a potential weakness of using Windows terminals. "The loss of the data center means people are sitting on their thumbs. It brings added pressure on the core network to perform and maintain as high a level of availability as possible," Venezia says. Flieger shared this concern. "The con to thin client is that you put all your eggs in your network basket," he says. "If that network goes down, you're hosed."

The new architecture includes a 12-server front-end MetaFrame server rack, a back-end SQL Server and SAN rack, and a management server rack, each on its own virtual LAN segment. The rack servers, 1U (1.75-in.) dual-processor Hewlett-Packard ProLiant DL360s and DL760s, have redundant network adapters for each segment to which they connect, and servers on all three VLANs have six adapters. To minimize wiring problems, Venezia mounted dual Cisco Catalyst 3550 switches atop each rack, which allows OH+R to run just two fiber cables back to the core switches.

Although MetaFrame kept bandwidth requirements per session down to about 20Kbit/sec., Venezia added PacketShaper application-layer traffic-optimization appliances from Packeteer Inc. in Cupertino, Calif., to give Systoc traffic priority. The appliances give administrators more control of available bandwidth, but they required publishing individual applications as icons within MetaFrame's NFuse portal interface rather than publishing a single, more user-friendly Windows desktop. The PacketShaper appliances also control Web browsing bandwidth and smooth out report-printing traffic by giving those packet types a lower priority. The savings add up, Flieger says. "Adding a single-channel 64Kbit line is about $40,000. We're running our network probably at about half what others are," he says.

To address database scalability and performance concerns, the design includes direct-attached HP StorageWorks MSA 1000 Fibre Channel storage arrays, one for each SQL Server system. Flieger also accepted Venezia's recommendation to put the SQL Server database transaction log onto a 16GB RAM disk, called QikData X3, from Platypus Technology Inc. in Billerica, Mass.

"That shifts the bottleneck out to the processor and memory and gets it off the disk I/O," says Flieger, who acknowledges that he was initially concerned about reliability and support of the 3-year-old vendor. But the X3's ability to partition memory banks into two mirrored 8GB virtual disks and to automatically write memory content to an internal hard disk in the event of a power failure allayed those concerns.

OH+R has 250 concurrent users today, but Flieger wanted to see Systoc scale to 600 concurrent users to support future growth. IniNet arranged for the use of servers and lab time at HP's benchmark center in Baltimore, while OH+R sent staffers to develop and administer the testing scripts. "They banged the hell out of those servers," says Flieger. The test system ran out of gas at 300 users.

The problem was a process that passes Windows authentication to SQL Server. Turning that off cut processor usage by 30% but required a generic SQL Server user ID and password to avoid an extra user log-in. In doing so, Flieger lost the ability to associate SQL Server database log activity with specific users. But when the number of concurrent users reached 600, he decided to continue with the migration.

Fresh Start

Flieger and his staff came up with a consistent schema for the new database but still faced integrity problems with the existing data. So OH+R broke with its past. The old systems would be maintained as "accounts receivable" databases for another 12 months, while the production database and schema would start anew. "It made sense for us to start fresh," says Walkover. After about a year, the old database will be phased out, says Ken Martin, vice president of customer relations at Occupational Health Research.

For its first migration, in Warwick, R.I., OH+R spent two months doing eight test data conversions, going back each time to fix problems. On May 19, the "technical go-live" date, the final data conversion began. Users could enter patient information and scheduling data, but not billing information, for the first two weeks. The new system finally went live for billing on June 2. "It was the smoothest conversion I've ever seen. We didn't have a single phone call," says Martin.

Users now have access to Exchange e-mail, Microsoft Office and Systoc through the NFuse portal. Flieger will begin planning the migration of OH+R's human resources and accounting software next.

Garabino predicts "huge" savings in billing and collection, since that's where the system has been weakest. But he also expects smaller gains from improved business processes. "There will be productivity improvements related to the system all over," Garabino says. **41426**

SELLING THE CEO

The head of OH+R wanted more than just ROI

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Mainframe Redux?

As OH+R began designing its new data center and information system, CEO John Garabino left most of the decisions to his IT staff, but past experience left him with a strong bias against one technology option. Garabino had been burned at his previous company after approving what turned out to be a very expensive system based on an IBM System/36 minicomputer. This time, he says, "the only thing I said was it absolutely had to be PC-based, and I didn't want to hear anything about minicomputers."

That didn't appear to be a problem at first. But Flieger's data center design, with its Windows terminals and MetaFrame back end, looked a lot like the old mainframe-based time-sharing model to Garabino, and Mark Flieger, vice president of information services, had to explain how it was fundamentally different.

The new system is, however, the same as a mainframe in one respect, Flieger says. "It's awesome when somebody can call you and say they need access to an application, and within 30 seconds, they're staring at it," he says.

But Garabino was put off by the "glass room" data center concept. "I said, 'Wait a minute, are we going back to the old computer room? If you start talking about raised floors and air conditioning, I'm going to be very nervous,' " he says.

So Flieger ended up explaining the intricacies and benefits of PC virtualization technology, client/server architecture, centralization of critical IT assets and how the new system is both similar to and different from the traditional mainframe architecture.

Garabino is now sold on the new system but acknowledges that it still sounds a bit like the old mainframe architecture to him. "What goes around comes around," he says.

– Robert L. Mitchell

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Solid Boost to I/O Speed

Solid-state disk appliances are expensive but promise to give disk-bound applications an extra performance kick. By Robert L. Mitchell

THE UNISYS MAINFRAME at Greater El Paso's Credit Union had run out of steam. Response times had slowed to unacceptable levels as transaction volumes climbed to 135,000 per day, and completioo times for nightly batch-processing jobs stretched to seven hours. Meanwhile, new regulations forced the credit unioo to keep systems online longer, leaving only a six-hour window to complete those jobs. "We needed to do it faster," says Rudi Kuehne, senior vice president of data processing.

After identifying database I/O as the bottleneck, Kuehne upgraded to an EMC Clariion storage array. That helped, but the problem didn't go away. "Even with faster disks, we didn't gain enough time to satisfy the operational requirements," he says.

Kuehne considered replacing the entire mainframe but instead spent $219,000 earlier this year on a solid-state disk (SSD) appliance from Texas Memory Systems Inc. in Houston. By moving key database files onto the 32GB device that functions as a giant RAM disk, the credit union cut per-transaction response times from 0.6 to 0.35 seconds. Nightly batch-processing times dropped to four hours. "This saved us from spending $2.5 million on a new mainframe," he says.

Prices are Falling

SSD devices have been around for more than 25 years, but high costs have kept them out of most data centers. However, as the cost per megabyte has plummeted relative to traditional disk storage (see chart), SSD appliances have found limited acceptance in areas such as online transaction processing and video editing, where extreme disk I/O loads may outpace even very fast storage arrays.

SSD has several benefits, says Peter Gerr, an analyst at The Enterprise Storage Group Inc. in Milford, Mass. "It delivers excelleot performance. It is nonmagnetic. There are no rotating components, so there is very low latency," he says. SSD access times range from 0.01 to 0.1 msec vs. 4 to 10 msec for the most advanced, 15,000-rpm disk drives.

But despite declining costs, SSD technology is still expensive compared with rotating disk systems. SSD appliances average about $1.85/MB, whereas disk prices range from 2 cents/MB for low-end Advanced Technology Attachment (ATA) devices to about 7 ceots/MB for high-end EMC Corp. storage arrays. Gerr says. Low-end SSD appliances start at about $3,000, and high-end models with 1TB of storage can run well over $1 million.

Since there are no moving parts, SSD systems are very reliable, and all products offer the same basic features. They use synchronous dynamic RAM, support data mirroring between banks of memory and include a backup battery and a hard disk onto which the system can automatically write the RAM disk contents in the event of a power failure. "It is the integration of the componeots that is the differentiator, and the software they offer," Gerr says.

Tech for Many Tasks

Vendors claim their appliances can do everything from expanding the oumber of user sessions a single Citrix Systems Inc. MetaFrame server can support to speeding up e-mail system performance and restoration times. For example, Solid Data Systems Inc. in Santa Clara, Calif., offers high-speed recovery software for Microsoft Exchange servers. TiGi Corp. in Vienna, Va., offers hybrid RAID/SSD appliances and software that allows for snapshot backups of the RAM disk cootents. And Texas Memory Systems stripes data backups across three hard disks in its appliance to allow continuous trailing backups of RAM disk contents.

Despite these features, few end users are aware of SSD, says Gerr. "In the financial industry, it's pretty well known. Outside that, it's in an early-adopter phase," says Woody Hutsell, executive vice president at Texas Memory Systems. And ooly a handful of small vendors offer the appliances, which caused concern for Kuehne, who was looking for a stable vendor with enterprise-class support. "After some soul searching, we decided that it was worth the risk," he says, adding that he checked the vendor's financial viability before proceeding.

Stability also worried Mark Flieger, vice president of information services at Hingham, Mass.-based health care provider Occupational Health + Rehabilitation Inc., which put the transaction logs for its disk-bound SQL Server database oo a $20,000 SSD appliance from Platypus Technology Inc. in North Billerica, Mass. He says the system's redundancy and the ability to move operations to disk in the event of failure convinced him to take a chance.

The limited number of SSD deployments also means that the appliances haven't been tested with many systems. "I would ask, 'Can this device coexist with my other systems, or will it just increase the complexity of my environment?' " says Gerr.

In Kuehne's case, the system didn't work with his mainframe, even though both Blue Bell, Pa.-based Unisys Corp. and Texas Memory Systems had said it would. "We were told it was certified to run on [Unisys] mainframes, but it had never been certified on our model," he says. The Unisys system interface wasn't designed to accept data at RAM disk speeds and timed out. The two veodors eventually remedied the problem with a microcode update for the Unisys hardware, but the process kept the system off-line for six weeks.

Who Needs It?

Charles Miller, senior vice president of data center engineering and operations at KeyCorp in Cleveland, dismisses SSD as unnecessary. "Originally, solid-state storage was necessary for critical high-access data sets for online transaction-processing systems," he says. "The response time provided by traditional direct-access storage devices [DASD] created performance bottlenecks for these applications. In the last five years, the performance increases in traditional DASD with large cache sizes has mostly eliminated the oeed for solid-state storage."

Gerr doubts that the technology will move into the mainstream anytime soon. "It just doesn't have the economic fundamentals," he says. But SSD appliances have their place in the data center, particularly for transaction-intensive applications where random data-access patterns make the system "cache-unfriendly," he says. "If you have that demanding of an application, and traditional storage solutions haven't provided the performance you need, then you might try [SSD]," Gerr says. **41310**

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Closing the Price Gap:
Solid-state disk vs. hard disk drive costs

YEAR	COST PER MB HDD
1998	$0.36
1999	$0.29
2000	$0.21
2001	$0.10
2002	$0.05
2003	$0.02*

*Price reflects ATA disk pricing. For high-end storage arrays such as EMC Symmetrix or IBM Shark, price per MB ranges from $0.05 to $0.07

SOURCE: ENTERPRISE STORAGE GROUP, MILFORD, MASS.

DONNA FERRIS

Several years ago, the federal government shifted its funding for high-performance computing from exotic architectures to clusters of commodity processors. The clusters are fine for some jobs, but not for the most demanding ones, says Ford supercomputer user **Vincent F. Scarafino.** *He explained to* Computerworld's *Gary H. Anthes the potential consequences of the U.S. losing the supercomputer race to Japan.*

Why worry about U.S. leadership in supercomputing? Why can't Ford just buy supercomputers from Japan if that country makes the best machines? Advanced supercomputers enable breakthroughs in leading-edge science. Access to these leading-edge supercomputers has, through the years, provided Ford with a competitive advantage. If the U.S. loses leadership in this area, U.S. science and industry will lose early access to the fastest, most capable machines. The Japanese Earth Simulator has already shown this effect. Japanese interests are the primary ones being served. American scientists have limited access to the machine, but not at the same level as if it were an American resource available here.

The Earth Simulator is made up of NEC supercomputers that are a refinement over the last vector supercomputer we made here in the mid-1990s, the Cray T-90. Japanese auto companies are formidable competitors. We don't need to hand them yet another advantage.

What should the federal government do to boost U.S. supercomputing technology? Fund high-end processor design and supporting system components. The goal would be ultrafast processors with memory and I/O systems well matched to the computational speeds.

The government used to do just that, sponsoring development of high-end supercomputer architectures like the Cray vector machines. But now it seems to favor huge clusters of commodity microprocessors. Yes, in the mid-1990s they said that microprocessors were getting faster and faster, and we just need to put a whole bunch of them together and we've got a supercomputer. Well, it doesn't work quite that way. Microprocessors are fast at computing, but in order to run real difficult problems, they have to have real fast access to memory and be able to do I/O quickly. And memory subsystems are extremely expensive.

If you look at the very large machines made up of off-the-shelf components, they get about 5% of their theoretical peak performance. But if you look at the Earth Simulator, you see numbers from the high 30s to mid-50s.

Are there some applications for which the commodity-based clusters of microprocessors are a good approach? They provide extremely good price/performance for solving well-known problems whose computations can be evenly split among many independent processors.

What could Ford do with a supercomputer 1,000 times more powerful than it has today? Predict occupant injury in accident scenarios. Improve durability analysis through full-vehicle-lifetime simulation. Explore greater variance in design parameters, helping balance competing design requirements while reducing design cycle time.

Can't Ford do those things today? The occupant injury thing is an analysis to actually compute what kind of damage is done to human organs — the brain or liver, for example. Today's analyses with test dummies are very crude. They find at a gross level whether that kind of crash is survivable. But [occupant injury analysis] takes much more computing power than is available now.

What else would you like to be able to do? Try to understand how exotic materials would work, well enough to understand if they'd work in vehicles. These composite materials are very strong, but understanding how they would react in a failure mode is a difficult problem to solve with today's computers.

What will the next generation of supercomputers look like? The next generation of supercomputers will most likely be similar to the last generation of supercomputers built in the early to mid-1990s. But they will be significantly faster and able to execute difficult algorithms at speeds much closer to theoretical peak rates than commodity-based machines are able to do.

Will there be any breakthroughs in software over the next five years? There has been significant progress in the area of parallel processing during the last eight years. I would expect continued evolution. I am not aware of any specific areas that seem ripe for breakthroughs, but these things are difficult to predict. Software cannot substitute for raw processing speed.

Does the debate about supercomputer architectures for scientific computing have any relevance for commercial applications such as transaction-processing systems? If you look back to when supercomputers first came out and there was a real push in high-end machines, what was learned always ended up later in commercial computing. But there is no more engine pulling that; there isn't this trickle-down effect any more. **41365**

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Supercomputing Horizons

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Despite these features, few end users are aware of SSD, says Gerr. "In the financial industry, it's pretty well known. Outside that, it's in an early-adopter phase," says Woody Hutsell, executive vice president at Texas Memory Systems. And only a handful of small vendors offer the appliances, which caused concern for Kuehne, who was looking for a stable vendor with enterprise-class support. "After some soul searching, we decided that it was worth the risk," he says, adding that he checked the vendor's financial viability before proceeding.

Stability also worried Mark Flieger, vice president of information services at Hingham, Mass.-based health care provider Occupational Health + Rehabilitation Inc., which put the transaction logs for its disk-bound SQL Server database on a $20,000 SSD appliance from Platypus Technology Inc. in North Billerica, Mass. He says the system's redundancy and the ability to move operations to disk in the event of failure convinced him to take a chance.

The limited number of SSD deployments also means that the appliances haven't been tested with many systems. "I would ask, 'Can this device coexist with my other systems, or will it just increase the complexity of my environment?' " says Gerr.

In Kuehne's case, the system didn't work with his mainframe, even though both Blue Bell, Pa.-based Unisys Corp. and Texas Memory Systems had said it would. "We were told it was certified to run on [Unisys] mainframes, but it had never been certified on our model," he says. The Unisys system interface wasn't designed to accept data at RAM disk speeds and timed out. The two vendors eventually remedied the problem with a microcode update for the Unisys hardware, but the process kept the system off-line for six weeks.

Who Needs It?

Charles Miller, senior vice president of data center engineering and operations at KeyCorp in Cleveland, dismisses SSD as unnecessary. "Originally, solid-state storage was necessary for critical high-access data sets for online transaction-processing systems," he says. "The response time provided by traditional direct-access storage devices [DASD] created performance bottlenecks for these applications. In the last five years, the performance increases in traditional DASD with large cache sizes has mostly eliminated the need for solid-state storage."

Gerr doubts that the technology will move into the mainstream anytime soon. "It just doesn't have the economic fundamentals," he says. But SSD appliances have their place in the data center, particularly for transaction-intensive applications where random data-access patterns make the system "cache-unfriendly," he says. "If you have that demanding of an application, and traditional storage solutions haven't provided the performance you need, then you might try [SSD]," Gerr says. 41310

Closing the Price Gap: Solid-state disk vs. hard disk drive costs

YEAR	COST PER MB	
	HDD	SSD
1998	$0.36	[illegible]
1999	$0.28	[illegible]
2000	$0.21	[illegible]
2001	$0.10	[illegible]
2002	$0.05	[illegible]
2003	$0.02*	[illegible]

*Price reflects ATA disk pricing. For high-end storage arrays such as EMC Symmetrix or IBM Shark, price per MB ranges from $0.05 to $0.07

DONNA TIPPS

Title:

Observation

Prediction

Several years ago, the federal government shifted its funding for high-performance computing from exotic architectures to clusters of commodity processors. The clusters are fine for some jobs, but not for the most demanding ones, says Ford supercomputer user **Vincent F. Scarafino.** *He explained to* Computerworld's *Gary H. Anthes the potential consequences of the U.S. losing the supercomputer race to Japan.*

Why worry about U.S. leadership in supercomputing? Why can't Ford just buy supercomputers from Japan if that country makes the best machines? Advanced supercomputers enable breakthroughs in leading-edge science. Access to these leading-edge supercomputers has, through the years, provided Ford with a competitive advantage. If the U.S. loses leadership in this area, U.S. science and industry will lose early access to the fastest, most capable machines. The Japanese Earth Simulator has already shown this effect. Japanese interests are the primary ones being served. American scientists have limited access to the machine, but not at the same level as if it were an American resource available here.

The Earth Simulator is made up of NEC supercomputers that are a refinement over the last vector supercomputer we made here in the mid-1990s, the Cray T-90. Japanese auto companies are formidable competitors. We don't need to hand them yet another advantage.

What should the federal government do to boost U.S. supercomputing technology? Fund high-end processor design and supporting system components. The goal would be ultrafast processors with memory and I/O systems well matched to the computational speeds.

The government used to do just that, sponsoring development of high-end supercomputer architectures like the Cray vector machines. But now it seems to favor huge clusters of commodity microprocessors. Yes, in the mid-1990s they said that microprocessors were getting faster and faster, and we just need to put a whole bunch of them together and we've got a supercomputer. Well, it doesn't work quite that way. Microprocessors are fast at computing, but in order to run real difficult problems, they have to have real fast access to memory and be able to do I/O quickly. And memory subsystems are extremely expensive.

If you look at the very large machines made up of off-the-shelf components, they get about 5% of their theoretical peak performance. But if you look at the Earth Simulator, you see numbers from the high 30s to mid-50s.

FUTURE WATCH

Are there some applications for which the commodity-based clusters of microprocessors are a good approach? They provide extremely good price/performance for solving well-known problems whose computations can be evenly split among many independent processors.

What could Ford do with a supercomputer 1,000 times more powerful than it has today? Predict occupant injury in accident scenarios. Improve durability analysis through full-vehicle-lifetime simulation. Explore greater variance in design parameters, helping balance competing design requirements while reducing design cycle time.

Can't Ford do those things today? The occupant injury thing is an analysis to actually compute what kind of damage is done to human organs — the brain or liver, for example. Today's analyses with test dummies are very crude. They find at a gross level whether that kind of crash is survivable. But [occupant injury analysis] takes much more computing power than is available now.

What else would you like to be able to do? Try to understand how exotic materials would work, well enough to understand if they'd work in vehicles. These composite materials are very strong, but understanding how they would react in a failure mode is a difficult problem to solve with today's computers.

What will the next generation of supercomputers look like? The next generation of supercomputers will most likely be similar to the last generation of supercomputers built in the early to mid-1990s. But they will be significantly faster and able to execute difficult algorithms at speeds much closer to theoretical peak rates than commodity-based machines are able to do.

Will there be any breakthroughs in software over the next five years? There has been significant progress in the area of parallel processing during the last eight years. I would expect continued evolution. I am not aware of any specific areas that seem ripe for breakthroughs, but these things are difficult to predict. Software cannot substitute for raw processing speed.

Does the debate about supercomputer architectures for scientific computing have any relevance for commercial applications such as transaction-processing systems? If you look back to when supercomputers first came out and there was a real push in high-end machines, what was learned always ended up later in commercial computing. But there is no more engine pulling that; there isn't this trickle-down effect any more. **41365**

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Supercomputing Horizons

EXPANDING ROLES FOR Identity Management

As applications and users multiply, companies are turning to ID management software to improve access to applications, password management and the provisioning of resources.

By Jaikumar Vijayan

SOUTHWEST AIRLINES CO. has just implemented software that allows hundreds of its engineers and mechanics to access proprietary information from its aircraft supplier's systems, using a single Web sign-on.

By year's end, Lehman Brothers Holdings Inc. will have in place a technology for automatically creating, modifying and deleting user accounts across the company in a fraction of the time it takes to do the same task manually.

In August, Sharp Healthcare Inc. rolled out software for secure self-service password reset and password synchronization across its major IT systems.

Those are examples of the kinds of projects that companies are undertaking to streamline access to applications and reduce the costs associated with managing enterprise identity information.

And there are other impetuses for such projects, says Deepak Taneja, chief technology officer at Netegrity Inc., a Waltham, Mass.-based vendor of ID management products. "In some cases, the business driver is cutting costs. In some cases, it is enhancing revenue. In others, it may be managing risk and regulatory compliance," Taneja says.

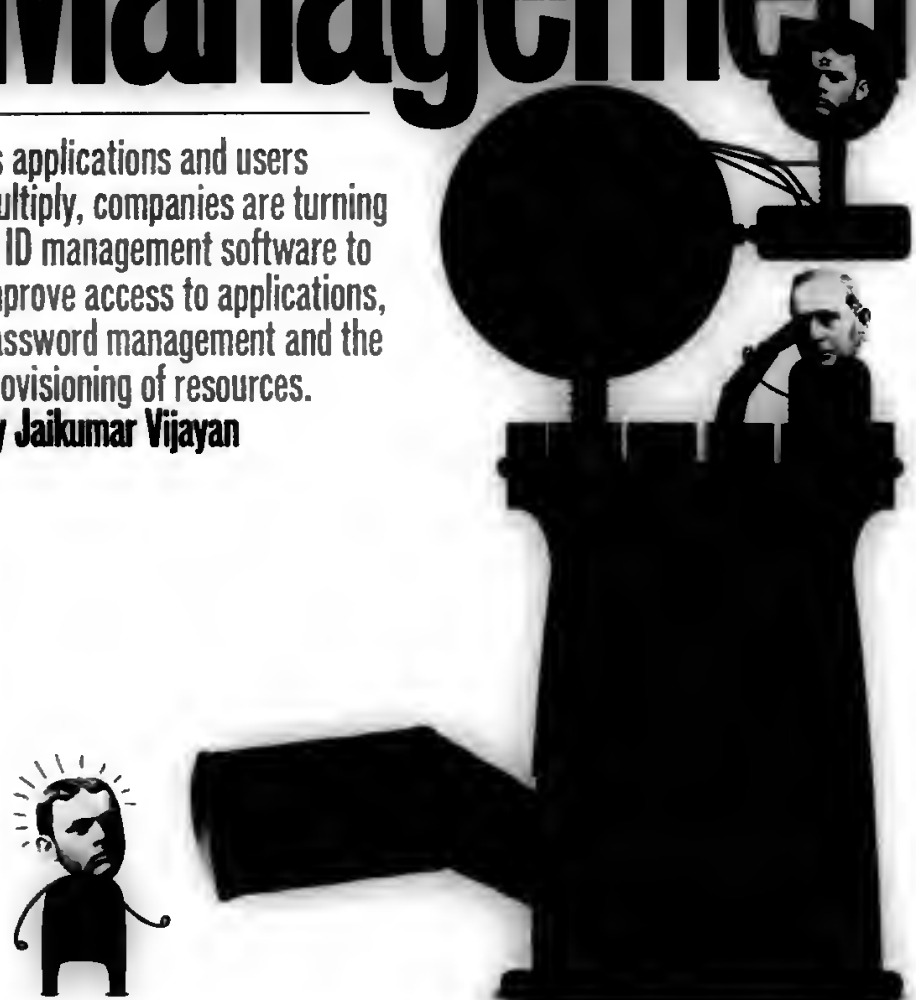
Identity management efforts focus on controlled access to information for employees, customers or business partners. Most ID management projects fall into one of three categories: Web access control, user account provisioning or password management.

- **Web access control** efforts typically deal with managing identities to authenticate and authorize users to multiple Web applications using a single sign-on. The growth in e-commerce, business-to-business and Web services initiatives has driven companies to provide secure access to Web applications for business partners, customers and employees.
- **User provisioning** initiatives, meanwhile, deal with the manner in which identity information is used to create or revoke individual user accounts on an enterprise network. Account-provisioning tools allow companies to accomplish both tasks far more quickly, securely and cheaply than manual processes allow.
- **Password management** efforts are spurred largely by the need for companies to lower some of the administrative costs associated with managing identities. They enable self-service password management and synchronization, delegated administration of passwords and enforcement of consistent password policies for multiple applications.

User and App Explosion

"There has been a significant increase in the number of users accessing applications and network resources," leading to demand for ID management technologies, says John Worral, a vice president at RSA Security Inc. in Bedford, Mass.

The growth of e-commerce and business-to-business applications and the trend toward Web services have



ALLEN CRAWFORD/FLANKTON ART

KNOWING WHO YOU ARE

One of the fundamental requirements to successfully rolling out an identity management project is to have an authoritative source for identity information, users say.

"If you have no concept of who your employees are or where your core ID information is coming from, all you are doing is amplifying noise," says Brian Buege, manager of application frameworks at Southwest Airlines.

The sheer diversity of systems in an enterprise network – each with its own user profiles – has resulted in identity stores popping up everywhere. To have a good ID management process, it's vital to have one version of the truth when it comes to user identities, says Giuseppe Cimmino, director of corporate technology at Discovery Communications.

Discovery decided to use its main human resources database system as its authoritative source when it recently implemented a Web access management technology from Netegrity.

Human resources records offer the most accurate and up-to-date information on a user's status within the company and are therefore the best identity source, says Ramin Safai, associate vice president of information security at Lehman Brothers.

Lehman is in the midst of a major account-provisioning project in which it's populating its core user directory with information directly from the human resources system.

"You need an HR identity to get into our systems. No one gets in without it," Safai says.

Another big issue, especially when it comes to account provisioning, is role definition, says Don Richman, manager of authentication and directory services at Raymond James Financial Services.

Since provisioning systems create user accounts based on their roles within a company, it's vital to specify the right level of access for each role, Richman says. That can be an enormous task involving input from multiple groups, especially in large organizations, he says.

– Jaikumar Vijayan

opened up enterprise applications to a wider range of internal and external users than ever before, says Giuseppe Cimmino, director of corporate technology at Discovery Communications Inc. in New York.

Consequently, there is a need for tools that can help companies centrally track and manage user identities, Worral says.

For Southwest, the payoff comes from increased productivity and reduced administrative costs, says Brian Buege, manager of application frameworks at the Phoenix-based airline.

The company uses NetPoint from Cupertino, Calif.-based Oblix Inc. to enable single sign-on access to multiple Web applications.

Oblix's technology has allowed Southwest to create a central identity profile for each employee that's used to authenticate and authorize access to Web applications.

NetPoint's support for the Security Assertion Markup Language (SAML) has also allowed Southwest to establish a more efficient process for logging on maintenance staff and engineers to supplier The Boeing Co.'s extranet. NetPoint allows Southwest to exchange SAML security assertions with Boeing that vouch for the identity of its employees, so they can be automatically logged into Boeing's applications. Previously, Southwest's engineers had to log in and authenticate themselves separately on the Boeing site.

"We pride ourselves on being a low-cost airline. We can't afford any additional cost when it comes to maintaining infrastructure," Buege says.

Web access-control products also allow companies to apply shared security measures for accessing multiple Web servers and applications, says Don Richman, manager of authentication and directory services at Raymond James Financial Services Inc. in St. Petersburg, Fla.

The approach is more efficient than having separate identity stores and access policies associated with each application, Buege says.

Raymond James is implementing centralized, policy-based access to Web applications using RSA's ClearTrust Web access software.

ClearTrust allows Raymond James to centrally control, manage and audit functions such as user access entitlements and authentication policies. It also enables Raymond James to delegate certain administrative tasks, such as password management, to business units as needed.

"What it allows us to do is centralize common rules and system-access policies in one location rather than have applications with their own application-level security and access," Richman says.

GLOSSARY

Commonly used terms in identity management:

- **Web access management:** The use of identity information to authenticate users and authorize access to multiple Web applications
- **Account provisioning:** The use of identity information to automate the creation of new user accounts or revoke account access across the enterprise
- **Password management:** Refers to self-service password resets, password synchronization and delegated user administration
- **Directory:** A repository of user-identity information
- **Single sign-on:** The process through which a user is authenticated once in order to access multiple applications

New Access and Orphans

User provisioning projects deal with issues such as how quickly a new employee gets access to appropriate enterprise applications and services, or how to eliminate orphaned accounts.

Both are crucial issues, especially in large companies, says Pete Lindstrom, an analyst at Spire Security LLC in Malvern, Pa. It's not unusual in large companies for new employees to wait several weeks to get access to all the enterprise applications and resources that they need to do their jobs, says David Lavenda, a vice president at Business Layers Inc., a vendor of account-provisioning products in Rochelle Park, N.J.

What's even more common is the existence of orphaned accounts that remain on systems long after an employee has left a company, says Lindstrom.

It was the security risks posed by such orphaned accounts that drove Lehman's implementation of a third-party account-provisioning technology, says Ramin Safai, the New York-based company's associate vice president of information security. "For regulatory and other [security] audit-based requirements, we needed to have something to answer the question of who has access to what system," Safai says.

So Lehman is deploying a third-party tool that uses employee records from the company's main human resources database to create or delete user accounts. Safai says company policy doesn't allow him to disclose the technology that Lehman is using to implement the capability.

When a new user is entered into Lehman's human resources system, its third-party provisioning software immediately assigns the appropriate network and system access based on company policies and that person's role in the organization. Any changes to that user's status within Lehman — such as a promotion — trigger immediate changes in access levels.

Similarly, when an employee leaves Lehman, the provisioning software immediately disables access and checks back periodically to ensure that access remains disabled.

"What used to take a week can be done in a few minutes" with the provisioning technology, Safai says.

The benefits that can be derived from such automation also drive password management efforts, Lindstrom says.

Sharp Healthcare, for instance, has used Boston-based Courion Corp.'s PasswordCourier product to enable users to manage their own passwords, says CIO William Spooner.

PasswordCourier has also enabled San Diego-based Sharp to enforce stricter rules relating to the creation and management of passwords, Spooner says.

The return on investment comes from the "fewer calls for password resets to the corporate help desk and much simpler [password] support requirements," Spooner says.

There are challenges to deploying such technologies that shouldn't be overlooked, users say. A lot of them have to do with having reliable sources for identity information. Since ID management tools automate manual processes, it's also crucial to have good policies for managing identities in the first place, users say.

It's also important to choose technologies that can work in multivendor environments, says Southwest's Buege. No product offers all of the functionality required by companies to manage identities and control access to applications. **41411**

MORE RESOURCES

For a comprehensive listing of vendors that sell products for identity management, go to our Web site.

QuickLink 41550
www.computerworld.com

Layered Defense Falls to Worm Attack

The latest worm outpaces patching efforts, exposing personal firewall and antivirus weaknesses. By Vince Tuesday

SECURITY MANAGER'S JOURNAL

WE WERE PUSHING for a speedy move to the supposedly more secure Windows Server 2003 — until we ran into the vulnerability in remote procedure call (RPC) services that use the Distributed Component Object Model. Every version of Windows, including Server 2003, is vulnerable to this latest buffer-overflow flaw. So we're rethinking our plans.

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Luckily, even the most trivial of firewalls stops this worm. But there are enough Windows machines without firewalls out there that the worm infected much of the Internet. Our firewall was jammed with thousands of attempts to get in, but we were unaffected — at first.

We knew that even a good firewall isn't enough to stop a worm, so we began to analyze other routes such an infection might take. We quickly determined that our highest risk lay with laptop users.

We sent an e-mail to all laptop users and warned them not to connect to the corporate network without checking with the security team first. We also got an updated virus definition from our security software vendor, Santa Clara, Calif.-based Network Associates Inc., and began rolling that out. Fortunately, McAfee VirusScan doesn't require a system reboot on most installs. We could roll it out with minimal disruption and plan a more convenieot time to install the Microsoft patch.

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At this point, we felt proud of ourselves. We started thinking bow foolish a big company like ours would be to allow itself to be hit by the Blaster worm. An easy patch, plenty of warning and a poorly written worm that could be blocked by the simplest of firewalls. How could you fail to stop it?

A few days later, we had our answer, as desktop after desktop lit up with virus-alert warnings for the Blaster worm and our intrusion-detection systems (IDS) went wild. Someone on the inside was spreading the worm.

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We used our IDS to quickly isolate the source of the problem to one laptop user. While my colleagues frantically called the user to tell him to disconnect from the network, I literally ran down to his office. I was flushed, angry and out of breath from running across the building. I didn't bother with our normal incident process: Once I confirmed that I had the right machine, I confiscated the laptop without explanation and left. I felt so betrayed by the user that I didn't know what I'd say if I remained in bis office.

Once I got back to my group, we had a few nervous, quiet moments monitoring the IDS. Fortunately, it had returned to green status with the removal of the laptop. A few more antivirus alarms came through, but these turned out to be delayed warnings.

We had caught the problem in time. No other machines had beeo infected, although we came frighteningly close to a meltdown.

We'd been protected by the antivirus software on machines that didn't have the patch, and luckily the infected laptop hadn't tried to contact any machines that lacked the patch or didn't have an up-to-date antivirius signature.

We then analyzed the infected laptop. The antivirus signature was months old, and tbe firewall had been set to a wide-open, trusting configuration that had allowed the worm to break in.

After I controlled my temper, I returned to discuss things with the end user. He couldn't explain how the firewall had beeo changed, bot he did admit that he had wanted to copy some files off his laptop before he gave us the machine to be checked, so he had ignored our advice and connected it directly to the network before letting us check it. This had allowed the worm to start scanning internally.

I'll have to put more effort into convincing laptop users to trust us, and I'll have to find ways to enforce the behaviors that we want. But it's clear that our pride in our defenses was misplaced. We need to patch quickly and have up-to-date antivirus software on every device in order to stand any chance of surviving the coming waves of worms.

Spam Redux

My company's "return to sender" strategy for coping with spam [QuickLink 40760] elicited a strong response from many readers. Perhaps the biggest concern: Some spammers use "from:" addresses on spam that actually belong to innocent e-mail users. By responding to these spoofed return addresses, some readers argue, I'm contributing to the problem.

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SECURITY LOG

Security Bookshelf

***Beyond Fear*, by Bruce Schneier, Copernicus Books, 2003.**

Schneier is a world-renowned cryptography expert who literally wrote the book on the subject when he penned *Applied Cryptography*. In these pages, he tackles broader security issues in the wake of the 9/11 attacks.

***Beyond Fear* is intriguing and thought-provoking. Taking examples from the headlines and from his experiences studying homeland security issues, Schneier teaches us to avoid fear and use good sense when making security choices. He cites interesting facts to help readers keep things in perspective. For example, he reports that while many people may worry about shark attacks, more people die each year in pig attacks than shark attacks.**

Schneier helps readers draw their own conclusions about which post-9/11 changes made the public more secure and which were aimed at making us *feel* more secure. The book's value lies in his ability to get readers to look at security problems from a different angle.

– *Vince Tuesday*

TruSecure Adds Risk Management

TruSecure Corp. has announced a new enterprise security management application. Risk Commander is a risk management tool that pulls and analyzes data from other security products, such as scanners, firewalls and network management tools, in order to spot relationships between seemingly disconnected security events.

Risk Commander will be available in November. Prices will start at $150,000 for an enterprise license, according to Herndon, Va.-based TruSecure.

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SECURITY LOG

[redacted]

TruSecure Adds Risk Management

[redacted]

BRIEFS

ADIC Launches Backup Product

Advanced Digital Information Corp. in Redmond, Wash., last week announced the ADIC Pathlight VX integrated disk-to-tape backup product, which uses serial Advanced Technology Attachment disk arrays to speed backup and restoration of data. The Pathlight VX comes with up to 40TB of RAID 5 protected capacity and total throughput of up to 1TB per hour using 2Gbit/sec. Fibre Channel connectivity. The system will ship in the fourth quarter. Pricing starts at $190,000 for a 10TB system.

Antispam Service Targets Verticals

Postini Inc. has announced Postini Perimeter Manager Enterprise Edition, which is designed to tackle corporate e-mail problems related to security, spam, viruses and prohibited content. According to Redwood City, Calif.-based Postini, the new software can be tailored to control spam in specific vertical industries, including financial services, professional services, law and pharmaceuticals. It uses heuristics at the SMTP content and transport layers to allow businesses to configure it to their specific needs, says Postini. The new application will be available in early October and will be priced starting at $15 to $25 per seat, based on the number of users.

11 of the top 12 industrial OEMs

5 of the top 6 global automotive companies

10 of the top 15 *Forbes* retail companies

10 of the world's largest brand names in the consumer goods industry

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Lycoris Releases v3 Of Desktop/LX

The latest versions of Lycoris Inc.'s Desktop/LX Linux-based operating systems are now available. New features include improved tutorials, hundreds of updated drivers, crisper font handling, increased support for Hewlett-Packard Co. printers and autoconfiguration of Wi-Fi connections, according to the Redmond, Wash.-based company. The software is available in three versions, including the enterprise-level Lycoris Desktop/LX InterConnect Update 3 version. The $229 package includes the operating system and an office suite featuring a word processor, address book, calendaring application, spreadsheet software and a presentation application.

Corex Offers Outlook Contact Updates

Business card scanner vendor Corex Technologies Corp. now offers an automatic, Web-based business-contact update service. Available on a subscription basis for users of Microsoft Outlook 2000 or 2002, the AccuCard for Outlook 1.0 service automatically sends an e-mail to the user's contacts once each quarter to ask them to update information in the database. Annual subscriptions for the stand-alone updating service cost $49.95. The Cambridge, Mass.-based company includes its $249 Corex CardScan business card scanner free of charge as part of the subscription package.

BRIEFS

APC Introduces Portable AC Unit

West Kingston, R.I.-based American Power Conversion Corp. (APC) last week introduced a portable air conditioner that's designed for small data centers and IT equipment closets. The PA4000, which provides up to 4 kilowatts of air conditioning, utilizes dual ducts to bring in air from the outside and remove hot air from equipment areas. The system includes programmable set points and on/off scheduling. It is priced at $3,499.

Schneider Tool Aids Shipment Search

Schneider Brokerage, a division of Schneider National Inc. in Green Bay, Wis., has launched FreightPlace, a tool designed to aid carriers in finding shipments to match their capacity. FreightPlace enables carriers to anonymously search for and find loads to fill their excess available capacity, the company said. Carriers can view potential loads for their capacity in real time and connect with one of Schneider's freight brokers via online chat or telephone to obtain more information about loads and to negotiate pricing, according to Schneider.

GE Picks Plateau E-learning System

In what may be one of the largest electronic learning implementations of its kind, General Electric Co. has begun installing an e-learning management system from Arlington, Va.-based Plateau Systems Ltd. Plateau 4 LMS will serve as the core e-learning management system at GE, replacing a number of divisional systems. The system is expected to help GE provide virtual desktop training to more than 300,000 employees and contractors on five continents. The business-by-business implementation of the software is expected to be completed by the end of the first quarter of 2004.

TOMMY PETERSON

Who Am I This Time?

MY DAY AT THE OFFICE starts when I switch on my laptop and, responding to the system prompt, type the name of my Icelandic great-grandfather into the password field. As soon as Windows XP stops churning, I click on Lotus Notes and watch the hieroglyphics dance beside another password box as I type in the name of my favorite basketball coach. Having proved who I am to the satisfaction of our relatively low-security system, I can then get down to work.

This description confirms that I'm among the vast majority of computer users who sentimentally drop little crumbs of their real identities into the markers that enable their virtual identities. Of course, these bits of individual history also serve as effective mnemonic devices, which are pretty hard to come by when your password is something like "8bz96q."

Those two passwords are about all I need to do my job, but they're just the beginning of my own personal identity management crisis. Add to those the usernames and passwords necessary to track my bank and credit card accounts, retirement funds and escalating fines at the public library. And then there are all those useful Web sites with the irritating requirement that I register before they'll give me access to the content, even if it's free. I'd use the same username and password every time if only I could remember them without introducing ever-so-slight variations.

But any individual's minicrisis dwarfs in comparison to the identity management problems facing most large businesses. The typical Fortune 500 company reports that it maintains over 180 directories, often requiring end users to keep track of a dozen or more sets of IDs and passwords, according to the Burton Group. This situation represents a security and help desk nightmare. There's plenty of software being developed to solve the problem (see story, page 34), but the complex issue of identity management remains far from resolution.

In the corporate context, identity establishes a relationship between a person (or entity) and a business process. That relationship evolves over time, has a life cycle and, at some point, should come to a clear end. The relationship also almost always involves a push-pull between the availability of information and security concerns.

For a business, managing identity means providing and controlling access to key applications and information. It means being able to turn that access on and off easily and protecting information on both sides of the relationship.

E-commerce has been the showcase for many high-profile identity management issues. And, those haven't gone away — if anything, the struggle between privacy and convenience has been intensified by increasing regulatory pressures. But much of the action on the identity and access-control front has moved inside the corporation to employees — and to the boundary of the organization where relationships are maintained with partners and suppliers.

When a new hire joins the company, he is assigned an identity, probably an e-mail address and a password, which will be enlarged to include his privileges to access the computer system, network file shares and applications appropriate to his specified role. Some of those applications will come with new identifiers and authentication mechanisms. Clearly defined roles and policies are at the heart of automated identity management within the corporation.

A promotion or transfer automatically translates into access to different resources. Identity management systems track the roles that match the employee's changing position in the company, sometimes adding privileges and enlarging his identity, and at other times pruning outdated access or services. The process continues until the employee leaves or retires, at which time the final step in the process is to end all access tied to the user's identities and authentications, lest the vestiges of his identities create the security risk of an "orphan" account.

The increasing need for companies to offer partners, suppliers and contractors access to their systems dramatically ratchets up the scale and complexity of the identity management problem. The exchange of information has become a core business transaction that can take place only when everyone's identity is established and authenticated while intellectual property rights and the privacy of individuals are maintained.

Identities, in a business context, will be increasingly consolidated and standardized as they're federated across many organizations. And the means of authentication will change. As ID management systems expand, security risks grow. Password references to pets, former significant others, alma maters and other arcane personal tidbits will be replaced by an encrypted key, a token or a fingerprint scan.

What could be more personal than a fingerprint? And there's nothing to remember. ● 41609

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HP iPAQ Pocket PC is powered by Microsoft® Windows®.

Dear Reader,

September 29, 2003

Duane Zitzner
Executive Vice President, HP Personal Systems Group
Hewlett-Packard Company

Please join me in congratulating the winners of the 2003 Computerworld Best Practices in Mobile & Wireless Awards Program. They have distinguished themselves as leaders in their field, and by sharing their success stories, they continue to motivate other IT managers to strive to find similar winning solutions. HP is proud to be sponsoring this prestigious awards program.

I would also like to acknowledge and thank the many companies, public relations firms, agencies, other organizations and individuals who took the time to respond to the nomination submission process. Narrowing the field down to 100 finalists was a difficult challenge.

Additionally, HP would like to extend its thanks to the judges who had the arduous task of selecting two winners in each of five categories and honorable mention designates. HP and Computerworld are most appreciative of your dedication to this program.

I hope that the profiles of the ten winners in this supplement will help you identify the challenges you face and enable you to derive benefits from the deployment of mobile and wireless technology. These exciting and innovative technologies are creating avenues to meet business, administrative and customer service challenges.

Once again, congratulations to the winners of this program and good luck in your future IT solution endeavors.

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Supplement compiled by Brian Sullivan, Computerworld Custom Publishing contributing editor. Judging criteria and other program information is available online at www.mwwaa.com.

Mobile & Wireless World Conference: May 24-27, 2004

Systems Implementation

Company Overview

U.S. Army's Program Management Office — Combat Systems
PM Combat Systems,
Systems Engineering Division,
System Integration Branch
Attn SFAE GCS-CS-S
MS 506
6501 East. 11 Mile
Bldg 229, 4th Floor
Warren, MI 48397-5000

URL:
www.peogcs.army.mil/
about.cfm

Established:
1965

Number of Employees:
150

Business Profile:
The group is charged with enhancing the capabilities of armored combat crews without adding to their burden. With a budget of over $500,000, the group must deliver a reliable and workable solution in extremely harsh conditions.

Deployment History:
The Abrams M1A2 SEP and Bradley M2A3 were used as the proof-of-principle technology for integrated platforms that will be used to feed into other efforts such as the Interim Armored Vehicle Program, the Future Combat System and the Objective Warrior Program.

Abrams Team
Project Champions

The U.S. Army's Program Management Office — Combat Systems

The Program Management Office — Combat Systems takes a total army perspective in managing the development, acquisition, testing, systems integration, product improvement and fielding of the Abrams Tank Systems and Bradley Fighting Vehicles. Its task is to provide world-class equipment to the armored soldier, permitting him to achieve decisive victory.

Challenges

The goal was to give armored fighting commanders the ability to command from either inside or outside the vehicle without ever breaking visual contact with the enemy or adding to the burden of the crew.

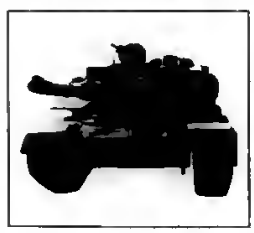
Since digital Situational Awareness became available for armored fighting vehicle crews, those crews have been asking for ways to improve battle command on the move and command-and-control capabilities while in action. Currently, armored commanders must get down inside the vehicle and thus lose their overall view of the outside combat picture.

Solution

The Objective Integrated Combat, Command and Control (IC3) program implemented by the PM Combat Systems group allows commanders to receive battlefield data through a secure wireless LAN and interact with that data without ever losing sight of the enemy.

Benefits

Commanders can receive crucial data on a helmet-mounted display, which means they never have to lose the enemy visually. The commander can also interact with that data via a tactical voice-activated system, which allows the commander to communicate with other units, including fire missions, medical evacuation and supporting arms liaison teams. The program reduces the armored crews' burden, improves the soldier-machine interface and can be used whether the commander is tethered to the vehicle or not. All in all, the program offers armored crews a tactical edge in combat.



Recognizes the successful design, im[illegible]n and management of [illegible]eroperable [illegible] architecture. Demonstrates th[illegible]y to sour[illegible]ent from multiple vendors and to maintain a [illegible]geneous environment.

Kurt Zimmer
Project Champion

Putnam Investments

Putnam Investments is a global money management firm with 65 years of investment experience, $271 billion in assets under management, over 700 institutional clients, and nearly 13 million shareholders and retirement plan participants

Challenges

The IT organization must support a mobile workforce of wholesalers who spend up to 80% of their time on the road and have limited access to computer networks and enterprise applications These wholesalers are critical in helping Putnam differentiate its products from those of its competitors and in ensuring that financial advisors recommend Putnam's mutual funds Putnam targeted three key areas to meet its goals

- Ensure that wholesalers knew their advisors well and were able to improve service to them
- Reduce the administrative load on inside sales representatives
- Provide better management control of the sales process

Solution

Putnam chose a mixture of products from several different vendors for devices and device management software The hybrid solution allowed Putnam's staff to access the company's email and CRM and sales programs. Putnam's sales force is now able to manage contact, sales data and reports, track account activity; and address other key business functions in a two-way data exchange with Putnam's enterprise systems

Benefits

Wholesalers have logged more than 60,000 contract activities through their PDAs since the program was rolled out late last year User adoption is over 90% in an audience that was traditionally tough on new technology Sales management noted several key benefits, including improved wholesaler efficiency, fewer calls to inside sales and more consistent tracking of field sales activity.

Future activities include upgrading the entire process with the latest vendor offerings and rolling the program out to the international sales team.

Company Overview

Putnam Investments
One Post Office Square
Boston, MA 02109

URL:
www.putnam.com

Established:
1938

Business Profile:
Putnam Investments is a global money management firm with $271 billion in assets under management, over 700 institutional clients, and nearly 13 million shareholders and retirement plan participants It offers a broad range of investment products including institutional portfolios, 401(k)s, IRAs and other retirement plans; mutual funds, variable annuities, and alternative investments for institutions and high-net-worth investors

Deployment History:
The project began with a production pilot rollout to 12 wholesalers, serving as a test group to gauge the interest of the sales team and usefulness of the technology The pilot went live in 10 weeks and was met with strong positive feedback. The rollout continued to the full sales team in December.

PUTNAM
INVESTMENTS

Systems Reliability

Company Overview

Guidant Corp.
111 Monument Circle, #2900
Indianapolis, IN 46204

URL:
www.guidant.com

Established:
1994

Number of Employees:
12,000

Business Profile:
Guidant develops, manufactures and distributes medical technologies to treat cardiovascular and vascular disease. Its therapies save and improve the lives of thousands of patients around the world every day. Guidant was incorporated in 1994, and since has grown to $3.2 billion in revenue and more than 12,000 employees worldwide.

Deployment History:
Guidant transformed its terms of competition in the industry and enhanced its ability to serve its clients. Guidant plans to expand the Implant Registration, Inventory and Sales system to a total of 1,500 mobile users over the next two years and add up to eight more applications.

GUIDANT

Guidant Corp. Team
Project Champions

Guidant Corp.

Guidant is a world leader in the design and development of cardiovascular medical products. Guidant's technologies help patients with heart disease return to active and productive lives. The company's headquarters are in Indianapolis, with major operations in California, Minnesota, Texas, Washington, Puerto Rico and Ireland. Guidant's products are distributed by a sales force recognized throughout the industry for its clinical expertise and customer service.

Challenges

Guidant's Cardiac Rhythm Management group develops devices that correct life-threatening rapid or irregular heartbeats. Guidant has more than 1,300 representatives on site in the operating room to provide technical assistance related to the device. Guidant needed a way to enhance the ability of this team to do its job.

Solution

Guidant's sales force automation team equipped these field representatives with laptops running a collection of the most up-to-date applications. Access to the Guidant network was through dial-up, Wi-Fi or broadband connections with dual-factor authentication. The Implant Registration, Inventory and Sales (IRIS) system was the next major tool to be added to the Guidant sales force toolbox. The file replication subsystem is the backbone of the IRIS system and other software tools in the future. IRIS distributes the data field representatives need to do their jobs efficiently and effectively, and allows headquarters to capture data about implants and sales from the field reps.

Benefits

The new system guards against bandwidth creep and keeps the length of synchronization sessions to a minimum. It also offers a single, integrated console. This allows the IT staff to configure data-sharing logic, start and restart servers, view detailed system logs and manage the user community.

Acknowledges implementation strat[illegible] and programs to ensure high[illegible] information [illegible] ess. Examples of business conti[illegible] initiatives, backup plans, staging, performance testing/projec-ons, etc.) were key considerati[illegible]

Ron Neher
Project Champion

Motorola Inc.

Founded in 1928, Motorola has gone on to become a worldwide force in the wireless, broadband and Internet industries. The company has become known for its software-enhanced wireless telephone and messaging, two-way radio products and systems, and networking and Internet-access products. In addition, Motorola is a recognized maker of integrated electronics systems for the automotive, industrial and portable energy markets

Challenges

Eighty percent of Motorola's PCs are laptops Its PCs are connected to local-area, wide-area and enterpnse networks, some with very low bandwidth Previous backup systems that relied on human intervention were prone to error and eventual data loss Motorola needed a PC backup-and-recovery software solution for a highly mobile and diverse computing environment

Solution

Motorola turned to a commercially available recovery solution that was recommended by one of its employees, Ron Neher The product allows for even the backup of live data on a regular basis without human intervention, and it only records the data that changed since the last backup, so bandwidth is never a problem In fact, CPU utilization during a backup is as low as 10% to 20%. Employees no longer have to remember to perform backups, and they can recover any lost data with a simple right-click of their mouse

Benefits

During the first backup, everything on a machine's hard drive is recorded. After that initial save, only the data that has changed is compressed and sent over the network for storage. This technology is an excellent fit for remote and mobile users on bandwidth-sensitive connections

The company has 23,550 licensed users who have an average of 1.62 GB of unique data that needs to be backed up Motorola conducted a before-and-after assessment of its PC data restore, recovery and replacement costs and found that it saved $6 04 million each year in labor costs Right now, the company is in the process of expanding the program to cover all of its employees

Company Overview

Motorola Inc.
1303 E Algonquin Road
Schaumburg, IL 60196

URL:
www motorola com

Established:
1928

Number of Employees:
97,000

Business Profile:
Motorola Inc is recognized in the wireless, automotive and broadband communications industries worldwide. Sales in 2002 were $27.3 billion. Motorola is a global corporate citizen dedicated to ethical business practices and pioneering important innovations that make things smarter and life better, honored traditions that began when the company was founded 75 years ago this year

Deployment History:
Implementing the recovery solution for backup and recovery of enterprise PC data has helped Motorola save $6 04 million annually in reduced labor costs associated with PC backup and recovery. Motorola's PC base consists of about 80% laptops. With the vulnerability of data in a highly mobile user base, an effective and efficient backup-and-recovery solution is mandatory.

MOTOROLA
intelligence everywhere

intel inside
centrino
MOBILE
TECHNOLOGY

Information Security

Company Overview

INTEGRIS Health Inc.
3300 N W Expressway
Oklahoma City, OK 73112

URL:
www integris-health com

Established:
1983

Number of Employees:
7 510

Business Profile:
INTEGRIS Health is Oklahoma's largest not for profit healthcare organization operating 12 major facilities that support over 7,510 medical and administrative staff and 450 independent physicians Named one of the 100 "most wired" health systems for four consecutive years, INTEGRIS has a continued commitment to quality healthcare

Deployment History:
With an unidentified mix of hospital- and physician-owned mobile and wireless devices, the first priority was to silently monitor 5,000 workstations to detect synchronization and create an inventory of mobile users and devices with a security management software solution Balancing usability and security has resulted in over whelmingly positive feedback for the security solution

INTEGRIS *Health*

William Woloszyn
Project Champion

INTEGRIS Health Inc.

INTEGRIS Health is Oklahoma's largest not-for-profit healthcare provider, operating 12 major facilities with more than 7,510 medical and administrative staff and 450 independent physicians

Challenges

To provide higher quality patient care, INTEGRIS Health uses mobile and wireless technology to access patient records and lab results at the point of care However, information resident on mobile devices is not protected by existing network security and poses new threats to the privacy of health information that is governed by Health Insurance Portability and Accountability Act (HIPAA) privacy rules INTEGRIS Health needed a cost-effective security solution that would protect sensitive information from wrongful disclosure in the event the mobile device was misplaced or stolen

Solution

INTEGRIS Health implemented a mobile security program using a commercially available security and management software product This enables INTEGRIS Health to control security for mobile users across diverse computing platforms Users are authenticated with a personal identification number (PIN) or password to protect information contained on the device This also ensures data confidentiality and controls connectivity In addition, information on the devices is automatically deleted if they are lost or stolen Security functions are virtually transparent to the user and enable physicians to reset their own PIN or password

Benefits

INTEGRIS Health can now minimize the burden of enforcing compliance to mobile and wireless security policies by centralizing policy administration and automating distribution processes Administrators can control policy settings and device use based on existing group and user profiles This eliminates the need to update multiple systems each time a change in employment status is made

In addition, INTEGRIS Health now controls mobile device use and can prevent rogue devices from accessing networked resources

A case study on the successful implementation of secure mobile and wireless computing/communications and recovery from a significant network or systems disruption. Summary analysis of restart/recovery factors (backup deployment, time to restart and restore, [illegible]/data loss, etc.) was essential.

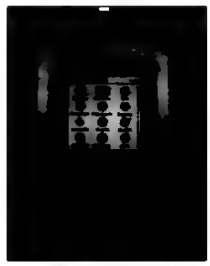
William S. Murray
Project Champion

Los Alamos National Laboratory

Los Alamos National Laboratory focuses on national security issues. In their effort to help the country counter nuclear proliferation — the possibility that someone may try to introduce a weapon to the U.S. and detonate it — LANL scientists have developed a hand-held nuclear isotope identifier that can not only identify the source of radiation, but also send data about it to experts who can provide further analysis.

Challenges

Border officials currently use large portal monitors that people walk through. These machines can generally tell if there's radiation present, but not what that radiation is. In many cases, people with cancer or other problems that require the use of medical isotopes set those detectors off. A device was needed to allow officials to tell right away if the radiation was from a legitimate device or a weapon of some kind.



Solution

LANL scientists developed a hand-held nuclear isotope identifier that can identify the source of radiation and send data about it to experts who can provide further analysis. The device consists of two parts. The first is based on a commercially available handheld that provides the user interface, communication device and data archiving. The second part is a radiation detector that has a microprocessor. The handheld slips into a cradle on the detector and communicates with the radiation detector's microprocessor.

Benefits

The handheld is a lot easier to carry around in the field and is easy to use. It also allows for flexibility in the future. In addition, the handheld makes it easy to transfer data to other machines, allowing a more detailed analysis by specialists. The use of a commercially available product also ensures that the lab will not be put into the position of trying to build its own upgrades to the handheld and its interface.

Company Overview

Los Alamos National Laboratory
Bikini Atoll Rd., SM 30
Los Alamos, NM 87545

URL:
www.lanl.gov

Established:
1943

Number of Employees:
11,359

Business Profile:
Los Alamos National Laboratory is operated by the University of California for the National Nuclear Security Administration (NNSA) of the U.S. Department of Energy and works in partnership with NNSA's Sandia and Lawrence Livermore national laboratories to support NNSA in its mission.

Deployment History:
In 1997, Los Alamos started looking for ways to make radiation detection devices smaller and simpler to use for people with little technological experience. The events of Sept. 11, 2001, have made the need for this technology even more pressing.

Los Alamos
NATIONAL LABORATORY

Financial Payback

Company Overview

Burlington Northern Santa Fe Railway Co.
2650 Lou Menk Drive, 2nd Flr
P.O. Box 961057
Fort Worth, TX 76161-0057

URL:
www.bnsf.com

Established:
1995

Number of Employees:
38,000

Business Profile:
The Burlington Northern Santa Fe Railway Co. operates one of the largest railroad networks in North America, with 33,000 route miles covering 28 states and two Canadian provinces. This network covers the western two-thirds of the U.S., stretching from major Pacific Northwest and Southern California ports to the Midwest, Southeast and Southwest, and from the Gulf of Mexico to Canada.

Deployment History:
Within two months of implementing its program, the BNSF realized a dramatic return on investment. The railroad determined that it reduced the usage cost per minute for wireless devices by 37% and has significantly driven down TCO.

John Hicks
Project Champion

Burlington Northern Santa Fe Railway Co.

BNSF operates in 28 states and two Canadian provinces and moves freight over a rail network stretching 33,000 route miles, making it one of the largest railroads in North America. Wireless capabilities enable BNSF to improve service levels and generate efficiencies by keeping train crews, maintenance crews and management aware of current schedules and work plans.

Challenges

The majority of BNSF's employees uses wireless devices as their primary link to the office or dispatch center. But as dependency on wireless grew, the company faced rising costs. BNSF needed a comprehensive solution to address its wireless management challenges without dedicating additional internal resources. Challenges included accessing wireless usage information and associated costs across carriers, identifying savings opportunities and maximizing the return on investment (ROI) of wireless.

Solution

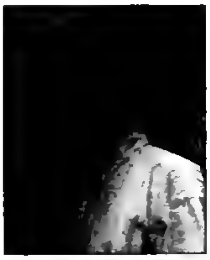
BNSF chose a leading mobile communications management software product to resolve the above issues and reduce wireless service costs while providing a robust solution for managers and employees to participate in managing wireless budgets. It provided BNSF with a customized, Web-based application suite and dedicated account support services to organize, analyze and optimize BNSF's wireless users, usage, devices, carriers and service costs, all within a single interface.

Benefits

The software dramatically reduces wireless service costs via a patented process for matching employees' monthly usage to the more than 14,000 available rate plans and continually drives down the usage cost per minute.

BNSF centralized wireless accounts and costs and delegated wireless management responsibilities to cost center managers and employees. BNSF realized positive ROI in two months and attained a total reduction in usage cost per minute of 37%. These results show that BNSF is getting the most out of each wireless dollar spent and aggressively driving down the total cost of ownership.

Achievements in measurable return on investment, return on assets and return on resources through the use of a mobile and wireless system were evaluated. Total cost of ownership benefits and other accomplishments were presented.



Mark Wrubel
Project Champion

Ford Motor Company

Ford Motor Company, headquartered in Dearborn, MI, is the world's second largest automaker, with approximately 335,000 employees in 200 markets on six continents. Its automotive brands include Aston Martin, Ford, Jaguar, Land Rover, Lincoln, Mazda, Mercury and Volvo. Its automotive-related services include Ford Credit, Quality Care and Hertz.

Challenges

The company's goals were to improve quality and reporting while increasing safety and cutting costs at more than 50 manufacturing plants through better tracking and delivery of parts inventory. Additionally, the entire system had to be easy to use, intuitive for assembly-line workers, and operable with wireless technology in a manufacturing environment.

Solution

Ford jointly developed a real-time locating system with Santa Clara, Calif.-based WhereNet Corp. The WhereCall Parts Replenishment solution provides real-time material replenishment requests for material handling utilizing radio-frequency call buttons. When an operator presses a WhereCall button, the system places a request for the associated parts. This information is transferred to material-handling operators, who deliver the material. In addition to notifying internal parts suppliers, the tag transmits information to Ford's management and results in better control of the supply chain.

Benefits

Ford has realized significant savings through lower installation costs, increased operation efficiency, lower inventory quantities and increased manufacturing flexibility. The wireless call system also costs half to three-fourths of what a similar system using wired components would cost. In addition, the system can be installed in a quarter of the time it took to install the previous systems, and line rebalancing operations can be done in much less time with virtually no additional capital expenditures for hardware and equipment.

The system ensures that materials are installed at their intended location.

Detailed data on material usage and delivery times are now available.

Company Overview

Ford Motor Company
One American Road
Dearborn, MI 48126

URL:
www.ford.com

Years in Service:
100

Number of Employees:
335,000

Business Profile:
Ford Motor Company is an international automaker that has multiple brands and competes for market share worldwide. The company needs to be able to manage many different parts streams to manufacturing plants worldwide while maintaining its competitive edge.

Deployment History:
The WhereCall system is in operation at more than 50 plants in North and South America and Europe, providing real-time material replenishment requests for material handling. Plans exist for the widespread deployment of additional solutions leveraging the multiple use infrastructures at most of Ford's North American and international plants within the next several years.

Innovation and Promise

Company Overview

London Ambulance Service
220 Waterloo Road
London, England SE1 8SD

URL:
www londonambulance nhs uk

Established:
1965

Number of Employees:
3,700

Business Profile:
London Ambulance Service is the largest ambulance service in the world, caring for more than 1 5 million patients every year As an integral part of the National Health Service, London Ambulance works very closely with hospitals and other healthcare professionals, as well as other emergency services

Deployment History:
For London Ambulance, the decision to adopt GPRS as a solution was made at a time when GPRS was in its infancy While a small element of risk was involved in adopting such a new technology, GPRS was identified as a better solution than other services, especially given how the various networks were expected to develop in the future

Quentin Armitage
Project Champion

London Ambulance Service

London Ambulance Service is the largest ambulance service in the world, caring for more than 1 5 million patients every year

Challenges

Serving an area of about 620 square miles, London Ambulance handles more than 1 million calls per year through 70 stations A solution was needed that would enable London Ambulance to simultaneously switch between multiple wireless wide-area and wireless local-area network (WWAN and WLAN) connections Previously used radio communications provided inefficient coverage for such an area, often slowing down critical response time

Solution

Seamless network switching provides automatic switching between multiple WWAN and WLAN network connections Now, when a London Ambulance vehicle leaves the 802 11b WLAN environment, its connection can switch to the general packet radio service (GPRS) and global system of mobile communication (GSM) networks as they become available, ensuring no break in communication User-defined rules designate the order the networks should be tried until a connection is established

Benefits

By switching from the WWAN to the WLAN and with the capability to switch from GPRS (packet data) to GSM (circuit-switched) networks based on availability, London Ambulance is able to minimize costs while maximizing coverage Now, in the event of an emergency, ambulances are notified by the sound of a bell in the cab while detailed instructions appear simultaneously on their in-vehicle touch screen device Following the initial notification, vehicles receive detailed driving directions via an in-vehicle navigation unit, which is attached to the touch screen PC Meanwhile, the control room is receiving GPS navigation data back from the vehicle every 15 seconds A map is also displayed, which enables the crew to see where the vehicle is in relation to their destination

Successful pioneering of leading-edge mobile and wireless technology was recognized in this category. The ability to overcome early adoption obstacles and to resolve problems (in-house or via unique vendor/integrator/other user partnerships, etc.) was analyzed.

Dr. Sydney Kennedy
Project Co-Champion

University Health Network

University Health Network is a consortium of three hospitals — Toronto General Hospital, Toronto Western Hospital and Princess Margaret Hospital — in Toronto. UHN is among the world's leading providers of exemplary patient care and innovative research and teaching.

Challenge

With increasing de-institutionalization of mentally ill patients, a cost-efficient way to treat those patients at the point of care (at levels consistent with those achieved in institutional settings) was required. In order to do this, psychiatrists, residents, clinicians and administrative staff need to be able to securely access, in real time, patient records, including such information as demographics, emergency visits, diagnoses, current medications, allergies, housing situation and clinical notes.

Solution

The first thing that had to happen was the digitization of all documents related to targeted patients. In addition, the establishment of a centralized administration management console that can overview and control operations was required.

The next phase, which began recently, was the integration of the back-end systems from the various institutions in the hospital's network. The technology is being facilitated with a transcoding technology that allows the program to take any business system and have it deployed with a single application programming interface onto any mobile and hardware platform intelligently and seamlessly.

Dr. Patricia Cavanagh
Project Co-Champion

Benefits

The labor force can be kept at static levels while increasing the quality and quantity of care delivered by removing the high cost of paper handling. Patient record management is labor-intensive, requiring field care workers to print data from various healthcare systems so that information will be available to them in the field. Healthcare professionals themselves can create a personalized, single view of a patient record that will improve collaboration.

Company Overview

University Health Network
250 College Street
Toronto, Ontario M5T 1R8
Canada

URL:
www.uhn.ca/uhn

Established:
1999

Number of Employees:
11,000

Business Profile:
University Health Network is made up of Toronto General Hospital, Toronto Western Hospital and Princess Margaret Hospital. Each hospital retains its identity and name within the network. Primary funding for University Health Network comes from the Ontario Ministry of Health. With an operating budget of over $850 million, the University Health Network is one of Canada's largest teaching hospitals.

Deployment History:
The first phase of this project (the digitization of all the documents and the establishment of a centralized administration management console that will be able to overview and control operations) is complete. The second phase, which will be integration with the back-end systems from the various institutions, is under way.

University Health Network

Until you have a total wireless solution, you're not completely wireless. With HP, now you can finally have the right technology and the expert back-end support for your wireless network. Start your upgrade with the lightweight HP Compaq Business Notebook nc4000 ultraportable, which comes with a wide array of integrated wireless communication options. Or consider the HP Compaq Business Notebook nx7000 with Intel® Centrino™ mobile technology*—complete with a wide 15.4" WXGA display, it's integrated with 802.11b to meet your wireless LAN needs. You can round out your wireless network with the light and thin Compaq Evo n620c which features a Lithium-Ion battery with up to a six-hour run time. The sooner you equip your organization with HP wireless notebooks, the sooner connectivity can be your reality.

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Intel® Centrino™ mobile technology with Intel® Pentium® M processors

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Integrated 802.11b to meet wireless LAN needs

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HP recommends Microsoft® Windows® XP Professional for Mobile Computing.

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IT Turnarounds
Is your IT shop a mess? Here's a 30-day plan for fixing a failing IT organization, from a former CIO who's done it several times. **Page 44**

QUOTE OF THE WEEK
"Without the tools to measure and report a business-centric view of IT, it's difficult, if not impossible, for companies to bridge the gap between IT and the business." – George Lin, CIO, Documentum, Page 46

Innovation Interruptus

Several years of budget cuts have unplugged many innovative IT projects. But some pockets of creativity remain. By Thomas Hoffman

RICHARD BORGE

YOU CAN'T just throw money at innovation. And savvy CIOs know that it's not a question of how much you invest in IT but how wisely you do so.

But after several years of IT budget-cutting throughout corporate America, many observers say that innovation has indeed suffered, though it hasn't been snuffed out entirely. In a *Computerworld* online survey of 106 IT professionals that was conducted last month, 70% of the respondents said their IT departments have dropped or delayed "especially innovative projects" in the past two years. The No. 1 reasoo given was budget cuts.

> "If you have read Darwin, [you know] the species has to innovate to survive, and if you don't innovate, you die."

Looked at a different way, only 24% of the IT professionals said they're working on "strategic IT projects that will revolutionize the way business is done" in their industries.

But observers say other forms of IT innovation have surfaced during these lean years. "If you have read Darwin, [you know] the species has to innovate to survive, and if you don't innovate, you die," says Paul A. Strassmann, former CIO at the U.S. Department of Defense and a *Computerworld* columnist. He says the current IT budget hardships are a "driving force" that will favor innovation.

"People have to be very innovative to support a corporation while the funds are shrinking," says Strassmann. He points to experimentation with offshore outsourcing, Web services and "anything that's going to save your ability to support" business activities.

But there's a difference between creative spending during tough times and investing in IT to achieve competitive advantage. Companies such as Wal-Mart Stores Inc., United Parcel Service Inc. and RadioShack Corp. have continued to increase their annual investments in IT — albeit in low, single-digit increments — to help them maintain or achieve leadership positions in their markets.

"Those who historically have known how to invest in technology for competitive advantage have continued to do so, probably at a slightly slower pace due to the general economic slowdown. But those who had no clue still have no clue," says John Parkinson, chief technology officer for the Americas region at Cap Gemini Ernst & Young in Chicago.

Wal-Mart is a prime example of a company that continues to invest

Continued on page 42

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Bold IT projects such as that can help a company like Wal-Mart squeeze another half point or point of profit margin from its revenue, which is a big deal in the retail industry, where 1% to 3% profit margins are the norm, Parkinson adds.

Still, Wal-Mart is an exception in the current IT spending climate. For example, midtier automotive and aerospace manufacturers that have seen 30% to 40% of their revenue base evaporate in the past three years as a result of the economic slowdown have made Draconian cuts to IT spending, Parkinson says.

However, some bigger manufacturers, such as DaimlerChrysler AG, are still making big bets on IT. Last November, the world's third-largest automaker announced that it was in the early stages of a huge investment in automating the design of its manufacturing plants [QuickLink 34758]. The project, called Digital Factory, is aimed at reducing the company's new-vehicle production cycles by up to 30%.

"As the economy has gotten tougher for all companies, we've been forced to focus on all aspects of costs, and you start doing a much better job of aligning business priorities with IT priorities," says Susan Unger, CIO at DaimlerChrysler.

Change Agent

Many companies that invested heavily in IT during the late 1990s are now deemphasizing new IT investments and instead focusing on making existing technologies more effective. In the *Computerworld* survey, 51% of the respondents said they're using this period of tight IT budgets to re-engineer business processes.

Fort Worth, Texas-based RadioShack just completed the first year of a multiyear effort to further optimize its supply chain, including assortment planning, inventory management, distribution and logistics, and store operations.

Last year, RadioShack finished installing a supply chain management system from Rockville, Md.-based Manugistics Group Inc. Now the consumer electronics retailer is working with Celerant Consulting Holdings Ltd., a multinational consulting firm in London, to address organizational and behavioral changes needed to make its operations more effective, says Mike Kowal, senior vice president of operational effectiveness at the $4 billion company.

> The dip in corporate IT innovation may produce a dip in U.S. economic statistics, too. "We're going to pay the price for this down the road, three to five years from now, when productivity growth is lower than it should be," says Erik Brynjolfsson, the Schussel Professor of Management at MIT's Sloan School of Management.
>
> "Right now, we're harvesting the productivity investments" from the late 1990s, Brynjolfsson says, referring to the massive investments that companies made in IT during the dot-com boom. "But if the pendulum swings too far, we risk cutting short the benefits."
>
> In 2002, U.S. productivity grew at a 4.8% annual rate – a staggering figure, considering the weak economy. Brynjolfsson expects U.S. productivity to grow at an annual rate of 2% for the next few years, much like it did in the 1990s. But if companies continue to trim their IT investments, says Brynjolfsson, "I may trim that [forecast] back a bit."

One reform has been to align corporate strategies with how workers and managers are actually compensated — something that's out of alignment at many companies. For instance, inventory managers typically want to minimize product inventories to hold down costs, but merchandising managers want to ensure the greatest selection of goods at each store. Now both sets of RadioShack executives have bonus incentives to keep store inventories as lean as possible.

The results? As of June 30, RadioShack was carrying 18.1 weeks of supply (the amount of time it would take it to deplete its inventory). That's a six-week improvement over its year-end 2002 supplies. Inventory management and other process improvements — such as reducing its new-product development cycles from nine months to seven months — have helped RadioShack cut $40 million in costs, says Kowal.

Grounded in Technology

In the *Computerworld* survey, 52% of the respondents said they're working on IT projects that will provide their companies with a major competitive advantage.

That's certainly the case at fierce industry rivals such as UPS and FedEx Corp., both of which have been investing heavily in IT since the 1980s in their respective bids to become the world's most efficient package-delivery company.

Donald Broughton, a transportation analyst at A.G. Edwards & Sons Inc. in St. Louis, says UPS "is the gorilla in ground transportation and has been for decades." But UPS has yielded some of its market share to FedEx over the past decade, since "shippers like to have more than one supplier."

Broughton says the decision by UPS and FedEx to invest in technology is grounded upon a single acid test: "Will it improve my ability to operate?"

Like other leading companies, UPS has scaled back its IT spending over the past few years, having gone from 12% to 14% IT budget increases in 2000 and 2001 to 1% to 3% annual increases since then, says CIO Ken Lacy.

But that doesn't mean UPS has frozen innovative IT spending. For the past six years, UPS has invested roughly $1 billion on a "smart-label" project that will make it easier for customers to track the whereabouts of their packages.

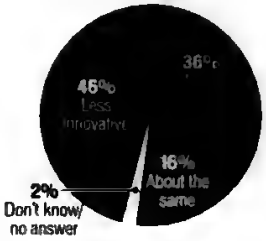
As part of the effort, UPS plans to invest $127 million over the next five years to deploy a new handheld terminal called the DIAD IV to 70,000 drivers [QuickLink 37803]. The DIAD IV, which features built-in cellular, wireless LAN and Bluetooth short-range wireless systems, enables drivers to download routing instructions for the day. Previously, UPS drivers had to manually input a customer's address and other information and scan the bar code on a package.

Now, says Lacy, the information "is in stop-by-stop order, and the driver doesn't have to key in the information anymore." In addition, Global Positioning System technology automatically alerts the closest driver to a package pickup.

"Anything you can do to be more efficient in transporting and delivering packages on a global basis" will help maintain or achieve competitive advantage, says Lacy. **41357**

Exclusive Computerworld Survey

Compared with two years ago, do you think your IT department is...



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SOURCE: COMPUTERWORLD.COM, AUGUST 2003

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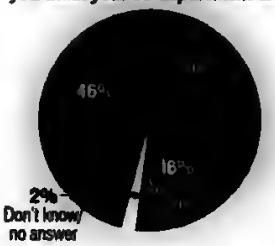

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SOURCE: COMPUTERWORLD.COM, AUGUST 2003

OK, our marketing is not as good as our technology.

Business Intelligence Vendor Rating

	Marketing Rating	Technology Rating
MicroStrategy	★ ★ ★	★ ★ ★ ★ ★
Cognos	★ ★ ★ ★	★ ★ ★
Business Objects	★ ★ ★ ★ ★	★ ★ ★

Source: Leading Industry Analyst (2003)

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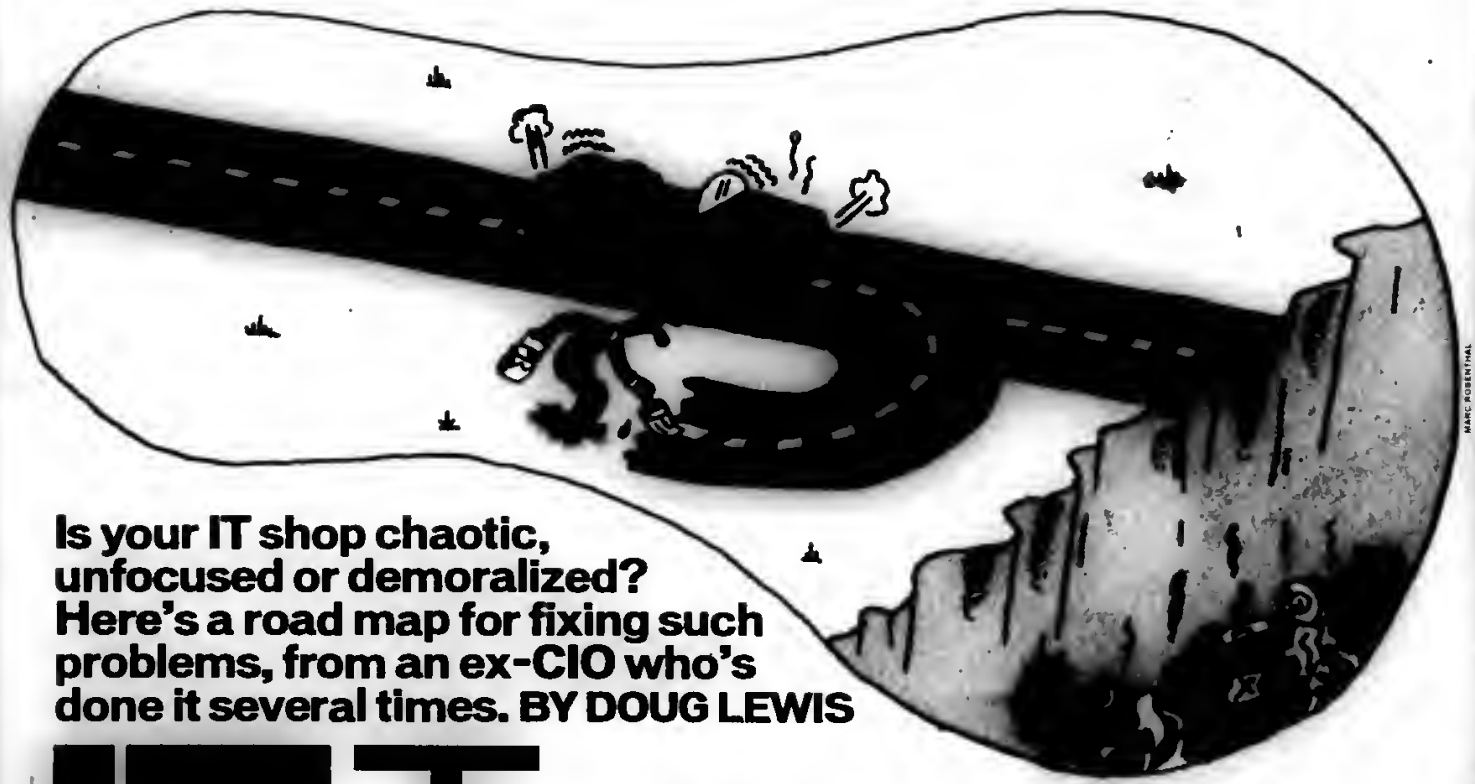

MARC ROSENTHAL

Is your IT shop chaotic, unfocused or demoralized? Here's a road map for fixing such problems, from an ex-CIO who's done it several times. BY DOUG LEWIS

IT Turnarou

"OUT OF CONTROL." "No value." "Too late with too little." "Disconnected from the business." Those are all common comments about failing IT organizations. Management magazines tell of CIOs unable to cope in the boardroom and IT organizations spending the bulk of their resources on projects totally unrelated to business strategies. Unfortunately, the stories are all too often founded in fact and accompanied by news of the replacement of yet another CIO.

So, let's assume you're the shiny new CIO, ushered into the corner office by the CEO and chartered to "fix this mess." After tbe CEO pats you on the back and tells you bow glad he is to have you on the team, what do you do? Is there a reliable formula for a successful turnaround? Are you going to get the bonus or the boot? That will largely depend on what you do in your first month.

There's a formula for this critical first month that will work in almost every IT turnaround. It has worked for me in three major companies and a spin-off.

Troubled IT organizations exhibit five basic symptoms. They're chaotic, unfocused, poorly led, demoralized and alienated. Eacb symptom has a root cause and, fortunately, a remedy.

CHAOS

This is what nails most CIOs. Chaos offends the inherent sensibilities of chief financial officers and leads to the old adage that the CFO is the natural predator of the CIO. CFOs are paid to protect the financial assets and reputations of their companies. Cost overruns, unpredictability, failure to deliver promised results, and reports that are obscured by incomprehensible verbiage all threaten the CFO's ability to assure the CEO and the board of directors that the company's coffers and reputation are safe. The CFO must react in order to eliminate chaos, and that reaction often leads to the elimination of the CIO.

CEOs, likewise, are under intense pressure from the board and shareholders to deliver predictable results. CEOs get nervous when CIOs don't meet schedules and overrun budgets, and they will remove the source of that irritation: you.

Financial chaos occurs when the authority to spend money is disconnected from the accountability to adhere to a budget. Generous spending authority is delegated to surprisingly low levels

within the organizatioo that have little visibility and fewer controls. No one knows how much mooey is being spent, who's spending it, what's being received or how to get the situation under control. The cure is a three-step process:

1. Ask the CFO to appoint a key person to help you gain control of and manage IT finances. This person must report to the CFO. You must hand over 100% of the IT financial reporting to this persoo and make this persoo your most trusted adviser. Don't allow anyone not reporting to this person to be involved with anything remotely financial. Having an independent finance person reporting on IT gives you instant credibility.

2. Tell your direct reports that staying within budget is their ticket to play. They doo't win bonus points for simply making budget; they just get to keep their jobs. Allow some time for them to bring their budgets under cootrol, but don't be overly generous. The CFO isn't going to give you much slack either.

3. Immediately remove all spending authority below the lowest level that you're holding responsible for budget accountability. Enlist the purchasing departmeot as your control mechanism; it must be able to prevent employees from issuing purchase orders that don't correspond to your new financial controls.

FOCUS

You'll quickly hear from the business leaders that IT isn't supporting the key strategic thrusts of the company and, generally, isn't delivering value. These business leaders get paid based on the successful execution of the CEO's strategies, and they get really steamed about anything threatening their net worth. You must become a part of this senior team, and you need to use its playbook. Quickly get your resources refocused on key strategies.

1. Use your new finance person to find out who's doing what. Build a list of active IT projects, including project name, the business-unit project sponsor, approved budget, spending to date and key milestones.

The list will show that your people are working oo too many projects, they're working on the wrong projects, spending doesn't line up with the strategic projects, there aren't identifiable business sponsors or too much work is going into very minor activities. You'll find lots of little projects hidden under the guise of maintenance. Kill them immediately.

You'll find 50% of your total development budget spent on "maintenance." Cut it in half, and let your team know you don't want any tears or failures. Pay your maintenance manager to deliver appropriate service levels at ever-decreasing costs.

2. Make a list of the few projects – no more than five – that are truly strategic and well aligned with the CEO's vision. Validate your list with your staff and your new finance person. Then talk with the business-unit heads. Ask them if you've got the list right. Replace any of the five with more important projects, but don't add a sixth.

Lastly, talk to the CEO. The key message is that you're going to stop all development on projects other than these five and you're going to focus all your resources on them. This takes guts. But keep this in mind: If you're successful oo all the little projects and fail on the big ones, you're history. If you get the big ones right, the little ones won't matter and you'll probably collect an embarrassingly large bonus.

3. Communicate the process to your management and staff. Some will be nervous if their projects don't make the top five. Reassure them, but don't promise them what you can't deliver: absolute security. After all, no one is promising you job security.

LEADERSHIP

Here comes tbe tough stuff. By this time, you'll have a feel for which senior IT managers are going to make it and which aren't. Don't fire anyone — yet. Go to the senior human resources executive and ask for a key HR person to be assigned to IT. The person must report to the senior HR executive but will be supporting you.

Have your direct reports do a 360-degree assessment of the IT managers, including yourself. Look for a balance of leadership types. You'll want someone to balance your style. If you're intuitive, you need a detail-oriented counterbalance. If you're into process and detail, look for an ideas-oriented leader. Discuss the 360-degree assessment with your team and the CEO. Let them know what you intend to do after seeking their input. Then, do what you have to do. Don't put off unpleasant actions. Wait too long, and it becomes impossible to do the deed.

> **CEOs get nervous when CIOs don't meet schedules and overrun budgets, and they will remove the source of that irritation: you.**

ALIENATION

You'll find evidence of alienation everywhere: Customers don't attend project meetings. Mistrust and even anger characterize interactions between business and IT. There's a pervasive lack of communication between IT and the business side. This problem has to be addressed upfront and quickly.

1. Personally accept responsibility for fixing the problem. Ask the CEO to let you address the executive management committee and then acknowledge the problems honestly. Use the refocused project list to show that you're sensitive to the company's strategic initiatives. Have your finance person report on your financial accountability actions. Have your HR person report on the 360-degree evaluations and your plans to build new leadership skills.

But don't make promises at this stage. You're not expected to have all tbe answers yet, and to pretend that you do would destroy the credibility you're trying to build. Your success will depend on your ability to build trusting relationships at this senior level. Trust is built on doing what you said you would do, every time.

2. Use your team, your finance person and the HR staff, and even outside consultants, to develop a balanced IT scorecard. Keep it nontechnical and concise. Shop the scorecard with the management committee members and your key customers. Use it to brief the CEO on a monthly basis.

So in the first month, build your senior team, seize control of spending, refocus your resources, select a morale-building milestone, and create a balanced scorecard. It's a packed schedule for one month, but it's doable, and you'll never get a better opportunity to get started right. 41369

Lewis recently retired from his position as CIO at InterContinental Hotels Group PLC and started The Edge Consulting Group LLC in Atlanta. You can contact him at edgeconsulting@bellsouth.net.

Fixing Morale Problems

IN THE FAILING IT ORGANIZATION, you'll find that morale stinks worse than week-old roadkill. IT staffers have been repeatedly characterized as losers, and it has sunk in. People who think they're losers will act like losers. People who act like losers perform like losers, and the hole gets deeper and deeper. You need to break the cycle. The best way to break a losing cycle is with a success.

1 Work with your staff to select a target milestone from the list of five major, strategic IT projects. The deadline needs to be close and challenging but doable.

2 Go public. Talk to your management and staff. Ask for their support. The message is that meeting the milestone is critical to the business and that you, personally, are dog meat if the organization fails. Put your butt on the line. Make it personal. (After all, it really is.) Make progress reports public. Go to the project meetings. Ask questions. Stay involved. Address issues quickly and forcibly. Act every second as if you expect success. Address problems, but never allow the possibility of failure.

3 Celebrate the crazy when the milestone is met. Throw a big party. Invite the business executives, including the CEO and chief financial officer. Now repeat the process, but with three to five milestones from the five major projects you've selected. The strategy is to create a chain of successes. People will begin to believe they can be winners. Once that belief creeps in, it's unstoppable.

– *Doug Lewis*

SHARP

Digital Document Security and IT: Everything you need to know.

Q: What are the most significant digital copier security issues?

A: Various copier print controllers are actually servers that queue and permanently store multiple document files, providing administrator access to the documents. At a minimum, most digital copiers retain the last document processed, some even retain multiple documents totaling hundreds of pages. Others redirect print jobs when the printer is busy or jammed, making "denial of service" attacks possible

Q: How does Sharp protect the network interface?

A: The Sharp Ethernet card allows administrators to restrict access and disable unnecessary protocols. With this network card, the Sharp digital copier is essentially protected by its own firewall

Q: How can you be sure that security products actually perform as claimed?

A: The Common Criteria program—administered by the U.S. National Security Agency and the National Institute of Standards and Technology—evaluates security solutions. Products that are validated under the program meet security levels consistent with ISO 15408 methodology

Q: How can Sharp improve IT security?

A: Sharp offers print privacy solutions designed to restrict unauthorized personnel from seeing confidential materials. Copier access can be controlled and monitored, while documents retained in printer/copier/scanner/fax memory are immediately cleared to eliminate unauthorized access.

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GEORGE LIN ■ PEER TO PEERS

Challenges of Running IT Like a Business

IN TODAY'S SLUGGISH ECONOMY, companies are demanding that their IT organizations make wise investments and demonstrate IT's value to the business. They need proof of this value in the form of business metrics, not traditional IT measurements such as uptime and throughput.

For many IT executives, this is the first time that they've been expected to run their organization like a business. And it's not easy. IT has typically operated as a mooopoly — employees have been required to use internal IT services — and breaking up a monopoly is never easy.

Breaking up the IT monopoly and transforming IT into a competitive business within a business is good for IT, good for the overall business and good for the economy. It increases IT's credibility and helps the entire organizatioo to realize the true value of IT, which can fuel reinvestments in IT. It also reduces the exodus of IT jobs offshore.

But before you overhaul your IT organization to operate more like a business, it's important to understand the following challenges:

1. Resistance within IT. Running IT like a business requires a shift in the mind-set of the IT staff, because breaking up the monopoly changes how IT operates and how it's perceived within tbe organization. And this type of change often generates fear of the unknown. It pushes IT people out of their comfort zones. So it's essential to have a well-defined and well-communicated transformatioo plan.

Involve people early on so that they can drive instead of being driven. Engage people in behavior-changing workshops and "soft skills" training sessions. Everyone should feel excited and empowered, very much like what people feel wheo working at a start-up company. It's an opportunity for IT to take control of its own destiny by competing for, and winning, the company's IT business.

2. Business metrics are required. To operate as a competitive business within a business — instead of a cost center — IT must transform itself into a service organization, with clearly defined core competencies, service portfolios, guarantees of quality and standard costs. This can't be done without relevant business metrics.

Proper IT governance requires metrics about operations, projects, user demand and finances to ascertain the business health of the IT organizatioo. Furthermore, IT executives must have access to relevant informatioo about IT's customers, partners and competitors. Having these metrics and reporting them internally to the eotire IT leadership team in a timely manner can show what's working and where improvements should be made. They're also required for IT "marketing and sales" campaigns.

3. Business/IT alignment is a prerequisite. As an internal service provider, IT must understand and even anticipate the needs and goals of its customers. Alignmeot ensures that IT focuses resources on business-critical tasks and applies limited budgets to achieving the greatest business benefit. With proper quality, productivity and cost reporting, IT can begin to articulate its value to the busioess.

Only wheo business/IT alignment is achieved can IT managers begin to gather requiremeots from internal customers and develop a comprehensive catalog of IT products and services (with appropriate support levels, well-defined service-level agreements and competitive prices).

Internal customers can then assess the IT group's offerings and choose to retain its services or to use a more competitively priced vendor. If the internal IT group is competitive with other sources or provides extra value, it will win the contract.

4. IT needs business management tools, too. While IT organizations have good tools that address the technical side of IT, they typically lack tools that address the business and people aspects of IT, such as ERP-like software tailored for the IT operation. Yet IT executives must make intelligent decisions on how to optimize resources and operations and bow to communicate the business impact of their resource allocations.

Business leaders need to know where IT dollars are being speot and bow effectively those dollars are contributing to overall business goals. Without the tools to measure and report a business-centric view of IT, it's difficult, if not impossible, for companies to bridge the gap between IT and the business.

Breaking up the IT monopoly and transforming IT into a competitive business within a business is a win-win situatioo for everyone. But IT executives must first tackle these challenges, or else this internal IT start-up company will fail. **41531**

*Trends in Proprietary Information Loss Survey (ASIS 2002) ©2003 Sharp Electronics Corporation

How secure is your digital information?

Protect your information with the Data Security Kit from Sharp. Financial facts, personnel records, customer lists: networked copiers/printers process sensitive information every day. Unfortunately, their hard drives can also be accessed via the network, contributing to $60 billion worth of information theft every year.* To protect this weak link in your corporate security, we've created our Data Security Kit. It's the first copier and printer protection to be validated by Common Criteria, a government-sponsored program, and it's available only with our Digital IMAGER™ series of copiers/printers. Sharp's Data Security Kit. Enhanced information protection at your fingertips. **sharpusa.com/security**

[redacted]

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GAVS Information Services seeks applications for a number of positions located in Denver or Louisville, Colorado. Applicants should send resumes to Prakash Vasant, GAVS Information Services, 4155 E. Jewell Avenue, Suite 603, Denver, CO 80222

Please specify the job order number for the position(s) that you are applying for. All positions involve full-life cycle software development for software applications that incorporate client/server technology, are web-based, and/or involve data warehousing applications and data reporting tools.

Project Manager
Requirements include Master's Degree in Computer Science, Engineering, or related field, including Computer Applications, software development experience, working knowledge of ACTA and Informatica Power Center Tools, SAP Oracle DBA studio. (Job Order No. 001).

Team Lead
Requirements include Bachelor's Degree in Computer Science, Engineering, or related field including Computer Applications software development experience, working knowledge of Dispatch 1 ERP software applications, Oracle, PCVS Dimension Version Controller. (Job Order No. 002)

Software Application Developer
Requirements include Bachelor's Degree in Computer Science, Engineering, or related field, including Computer Applications, software development experience, working knowledge of PL/SQL, Informatica, Unix Shell Scripting, Oracle Enterprise Management, and Data Modeling. (Job Order No. 003)

Software Application Developer
Requirements include Bachelor's Degree in Computer Science, Engineering, or related field, software development experience, working knowledge of Oracle, ACTAWorks, SAP Basis Administration, BMC Patrolling Software. (Job Order No. 004)

Software Application Developer
Requirements include Bachelor's Degree in Computer Science, Engineering, or related field including Computer Engineering, software development experience, working knowledge of J2EE, SQL/Server, Visual Basic, and Automated Testing. (Job Order No. 005)

Software Application Developer
Requirements include Bachelor's Degree in Computer Science, Engineering, or related field including Computer Applications, software development experience, working knowledge of Unix, Shell Scripting, Oracle, TOAD, Oracle Enterprise Server Manager. (Job Order No. 006)

Software Application Developer
Requirements include software development experience, working knowledge of ASP, Oracle, FoxPro, Java. (Job Order No. 007)

Senior Software Application Developer
Requirements include Bachelor's Degree in Computer Science, Engineering or related field, including Computer Applications software development experience; working knowledge of Dispatch-1 ERP Application, Data Warehousing, PVCS Dimensions, Oracle Relational Database Management Systems. (Job Order No. 008)

Software Application Developer
Requirements include Bachelor's Degree in Computer Science, Engineering, or related field, including Production Engineering, software development experience, working knowledge of Oracle and SQL/Server RDMBS, J2EE Web server, JDBC Database Adapter. (Job Order No. 009)

Telecomm co. in Framingham, MA seeks Senior Technical Services (Support) Engineer to provide remote and on-site technical training/engineering support; assist/resolve customer software and systems installation problems; assist customers to debug complex telephony applications/systems; provide engineering consultations; and interface with customers on compatibility of solutions. Must have: BS in Elect. Eng., Comp. Sci., Engineering, or equiv; 4 yrs customer support engineering experience, including hands-on real-time technical customer service and experience with complex software issues at embedded technology level. Salary $86,115.50/yr. Submit 2 resumes to Case #200202965, Labor Exchange Office, 19 Stanford Street, 1st fl., Boston, MA 02114

Chief computer programmer needed to maintain and refine a business simulation software system that is used for business training in marketing, manufacturing, accounting and finance. Requires BS or foreign equivalent in Computer Science or related field and 2 years in related job or 2 years in Computer Programming. Experience must include 2 years designing, implementing, testing, developing and maintaining medium scale software systems; designing and programming SQL database, application development using Delphi programming environment and development of business simulations; and 1 year in web design using HTML, Macromedia Dreamweaver, Photoshop and Macromedia Fireworks. Send resumes to Ernest R. Cadotte, c/o ILS, 500 Summit Hill, Knoxville, TN 37901

Tobin International seeks applicants for Sr. DBA Developer in Denver, CO to design, install, maintain, and administer Oracle relational database management systems for GIS applications. Requirements for position include bachelor's or foreign equivalent in computer science, computer engineering or related field, experience as an Oracle DBA Developer and working knowledge of GIS applications. Respond by resume to Mary Kimball, Tobin International, 1625 Broadway, Suite 500, Denver, CO 80202.

Software Engineer, TX and at various client sites in US. Perform analysis, design, development, deployment & implementation of web based applications with JAVA/J2EE architecture, provide E-commerce solutions. Use JAVA, EJB, JSP, SERVLETS, XML, XSLT, JAXP, LDAP, Java Script & DHTML. Develop client side & Intranet applications. Req: Bachelors in Computer Science or related + 2 yrs. in job or 2 yrs. as Programmer Analyst for web-based applications. Mail resume to HR, DBR Consultants, 5700 Glenview Ln., The Colony, TX 75056

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Software Engineer - Boston, MA. Software developmt for STP (Straight Through-Processing) global securities trade processing/mgmt solutions & Meta Info Modeling in relational format using UML & Gang-of-4 Design Patterns. Use C/C++, Java (J2EE, servlets, EJB, Java Native Interface), OO/OOA, UNIX shell scripts, RMI, XSLT, & VBSortol to code features in Oracle, Weblogic Server, MS & Weblogic Enterprise environments to account for trade cycles, trade settlemt models, & finan'l svcs industry infrastructures. Use PL/SQL, UML, Rational Rose & TogetherJ to develop/ implement DB code generators/search structures. Use Oasys Global API to develop/enhance interfaces between CTM & Oasys Global systems. Ensure system integration/delivery for ALERT CTM systems. Provide technical leadership to small teams & oversee life cycle of core product features cradle-to-grave: design, implementation unit testing, documentation, bug fixing. Design/implement trade message validation systems in ISO15022 & MT511 formats. Minimum Reqmts: Master's degree or foreign equiv. in Computer Sci., Computer Applic'ns or MIS + 3 yrs of exp. in job offered or in jobs meeting following reqmts: 3 yrs of software development experience in Java, & 1 year in STP trade mgmt applic'ns; TogetherJ & Gang-of-4 Design Pttns for Meta Info Modeling; Oasys Global API, ALERT CTM applic'n, & ISO15022 & MT511 message formats. Exp. may be gained concurrently. Hours: M-F, 9 am-5 pm. Rate of Pay: $95,586/yr. Pls submit 2 copies of resume to: Case # 200202882, Labor Exchange Office, 19 Stamford St. 1st Fl, Boston, MA 02114

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Computers - Programmer Analysts needed. Seeking qual. candidates possessing BS or equiv. and/or relevant work exp. Part of the req. relevant work exp. must include 2 yrs. working with iPlanet, Oracle, Unix Kernel Tuning & System administration. Mail resume & ref. to: Object Solutions, Inc., Attn: HR, 3025 Harbor Lane, #312, Plymouth, MN 55447-5119.

Systems Analyst: Design software programs for company in the area of accounting; Creates & maintains company database; Designs & maintains the Internet & e-business strategy & the website of the company. Works w/Macromedia flash & Photoshop; Works w/ASP & cold fusion; Works w/SQL server 7.0-8S in Computer Information Systems & 2 yrs of exp. /40-per wk. 8-6PM. Fax resume to: Alexander Motors Int. Corp. Attn. David Adrian Sosa (000) 000-0000

Software Engineers (multiple positions) sought by computer s/w development firm in Jacksonville, FL. Must have Bach in Comp Sci., Engg or equiv and two yr relevant exp using NLP algorithms, VC++, InstallShield, VB 6.0, ASP, XML, SQL Server 2000, and Win32 API. Respond to: HR Dept., Intelligenxia, Inc., 4905 Belfort Rd., Ste 110, Jacksonville, FL 32256.

Aztek Engineering, Inc. seeks Sr. Systems Engineer to work in Boulder, CO to engage in full life cycle development in telecom systems. Requires bachelor's in electrical engineering; 8 years experience in full life cycle development of systems requirements and hardware architecture for Class 4 and Class 5 central office systems platform and in ASIC and FPGA design using HDL languages; and working knowledge in voice over packet (VOP) gateway design and IP and ATM system design using C/C++ programming languages. Respond by resume to Debra Charnes, Aztek Engineering, Inc., 2477 55th St., Suite 202, Boulder, CO 80301 and refer to job #0782.

Software Engineers to design, develop test wireless/web software systems & services for devices including WAP Phone, Pocket PC's, etc. using Java, JSP, VB, VBA, SQL Web Servers, Weblogic, HTML, Ms Access and WCTP under Windows, UNIX OS; perform req analysis to determine tech feasibility; study/evaluate new tech./methodologies, provide guidance for complex user problems. Require: M.S. or foreign equiv in CS/Engg (any branch). Competitive salary. F/T. Respond to: HR AirZWeb, Inc., 1230 Peachtree Street, NE, Promenade II, 12th Fl., Atlanta, GA 30309.a

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PROGRAMMER ANALYSTS for Hickory Hills, IL office. Design & Develop software applications using Oracle, XML, UML, C++, Sybase. Interwoven, Coolgen, ClearCase, ClearQuest, PVCS, UNIX. Bachelors req'd in Computers, Engineering, Math or related field of study +2 yrs of related exp. 40 hrs/wk. Must have legal authority to work permanently in the U.S. Send resume to HR Manager, Compro Consulting Group, Inc., 8619 W 95th St., Hickory Hills, IL 60457

Database Administrator Install and test database and application configuration; establish and maintain test and production databases; assure database security; install all system customization; perform all necessary database tuning; perform regular database audits or check data integrity; perform and test backup and recovery procedures; provide application development support to developers. Req BS or equivalent in CS or CIS + nine months experience in job offered or as Tech Support Engineer. Must be Oracle and Microsoft certified. Must be proficient in Advance C/S Advance Web Access PowerBuilder/ InfoMaker Crystal Reports, ASP and Java Script. 40 hr/wk 8am-5pm. Contact Herbert J Brunswick, Georgia Tech Foundation Inc 760 Spring Street NW Suite 400 Atlanta GA 30332-0182

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- Web Commerce
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Senior Field Service Engineer - Install and accept all of the company's test systems at customer sites. Install tester software and connect to customer network. Keep records of the test system up-time and customer part usage. Perform telephone troubleshooting with the customer. Schedule preventive maintenance quarterly to achieve optimum system performance. Monitor performance on all of the company's test equipment. Schedule engineering change orders implementation to modify equipment design. Travel to customer sites and liaison with customer's engineering staff to resolve difficult technical problems. Help to develop and optimize test program for best test results. Requirements include a Bachelor's degree or equivalent in Electrical Engineering or related field and two years of experience in the job offered or related field of supporting semiconductor capital equipment. Requires approximately 50% domestic travel. Applicants must have unrestricted authorization to work in the United States. Salary $82,202/year. 40 hours/wk. Respond with two copies of resume to Case #200202719, Labor Exchange Office, 19 Stamford St., 1st Fl., Boston, MA 02114.

Informerca is looking for system/programmer analysts, software/project engineers & computer consultants working at different sites (travel required). Candidates must have BS with exp. in IT fields. Skills of Oracle, Informix, Java preferred. Send resumes to info@informercainc.com

K&M Softech is looking for programmer/system system, software/project engineers or IT professionals. Both entry & experienced levels needed. Some positions require travel. Skills in C/++, VB, Oracle, SAP, SQL are plus. Please send resumes to Recruit@kmsoftech.com. EOE

Engineer IT Tech Development: Web related & server-side R&D w/ Object Oriented Design, JAVA app development, implement Contents Mgmt Syst, use BEA Weblogic, Apache Web server etc. for campaign mgmt, personalization of company websites, transfer of svc to Web-based. Create enterprise connections & data-sync between web servers in US & Korea w/ JMS. B.S. in Computer or related eng/ring. + 2+ years J2EE Technology implementation, BEA Weblogic & core server-side programming in JAVA. Send resume to Robert Ang, Korean Air, 1813 Wilshire Blvd., Los Angeles, CA 90057

SERVICE ENGINEER

Apply Photomask technology to install and repair secondary electron microscopy and vector scan electron-beam semiconductor mask writing system. Utilize experience in mechanical/CAD design multiple components of mask/mask-material technology to analyze and follow blueprints and instruction and electron beam theories in semiconductor mask. Serve electron beam and electron optics equipment. Operate on UNIX networking system, metrology tools and defect analysis to figure out contamination issues. Train customer's personnel in adjusting, maintaining and repairing IC design layout. Consult with customer deviation of machine operation from specifications, explain reasons for changes and help customer optimize production process variable. Requires master in chemistry and 3 yr exp. in position offered or as Product Engineer. Send resume to OESS Corporation, c/o Micron Technology, 8000 S. Federal Way, M.S. 01-800, Boise, ID 83707-0006. Attn: James Hidaka.

Telecomm co. in Framingham, MA seeks Senior Technical Services (Support) Engineer to: provide remote/on-site technical training/engineering support; isolate/resolve customer software and systems installation problems; assist customers to debug complex telephony applications/systems; and provide engineering consultations. Must have: BS in Elec. Eng., Comp. Sci. Engineering or equiv. 4 yrs. communication systems development exp. using C; and knowledge of 2 of the following: SS7, ISDN, wireless technology, IP Telephony & Switching, Fax and CTI. Salary $82,833/yr. Submit 2 resumes to Case #200202868, Labor Exchange Office, 19 Stamford Street, 1st fl., Boston, MA 02114.

Software Developer

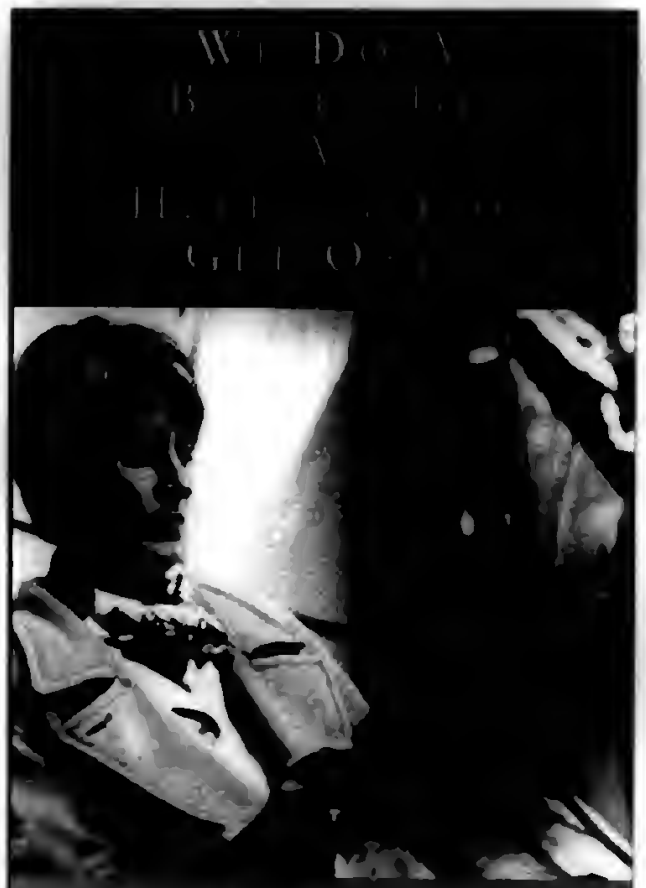
Design & develop copy protection & data protection software. B.S. in CS, or rel. w/abil. to use C, Assembler, C++, TCP/IP, PKI technologies, copy protection technologies, authentication & cryptographic algorithms & technologies. 40.0 hr/wk, 9-5. Send resume to Ms. Rosemarie Marx, Pres., Marx Software Security, 2900 Chamblee Tucker Road, NE, Bldg. 9, Ste. 100, Atlanta, GA 30341

Programmer Analysts for Omaha, NE office. Develop & maintain software applications using DB2, IMS, DB/DC/ADF, Teradata, Datacom, DB/DC, PL/1, Assembler, Natural ADABAS. Bachelors req'd in Computers, Math or related field of study +2 yrs of related exp. 40 hrs/wk. Must have legal authority to work permanently in the U.S. Contact HR Manager, Computer Manpower USA, Inc., 15 Old Forge Dr., Warren, NJ 07059

Engineer, Application, Sr. wanted by Co. engaged in dvlpmt & mktg of debit card. Must have BS in CS/EE &/or related tech field w/5yr exp (or MS w/2yr exp). Reply to HR, Attn: T. P., Med-I-Bank, Inc., 1601 Trapelo Rd., Waltham, MA 02451

Prog/Analysts to analyze, design, test datawarehousing, software applns using Cognos, COBOL, DB2, HTML, Java, JScript on UNIX, Windows OS, gather, document reqs from user community, test, troubleshoot project appln code accor to system objectives. Require BS or foreign equiv. in CS/Engg (any branch) & 2 yrs exp in IT. Competitive salary. F/T Travel involved. Resume to HR, Smartsoft International Inc., 4898 South Old Peachtree Rd., Norcross, GA 30071

Seeking qualified applicants for the following positions in Memphis/Collierville TN: Senior Programmer Analyst, Formulate/define functional requirements and documentation based on accepted user criteria. Requirements: Bachelor's degree* or equivalent in computer science, MIS, math, engineering or related field plus 5 years of experience in systems/applications development. Experience with J2EE development using UML modeling, UNIX Scripting, and SQL Scripting also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Sibi George, FedEx Corporate Services, 1900 Summit Tower Blvd., Suite 1400, Orlando, FL 32810. EOE M/F/D/V



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Software Engineer to analyze, design, develop, test and implement software application and databases. Utilize DB2, Oracle, Informix, Sybase, Ms-Access, FoxPro and other legacy databases on Unix, Linux, and Windows platforms. Provide application support, code fix and user training. Performed in creation of reusable Test scripts and provided to Quality Assurance team to test & evaluate the applications in any give time. Bach. in Computer Science or Information System and 5 years working experience. Send resume to Datum Software Inc. 6525 The Corners Parkway, Suite 312, Norcross, GA 30092.

SYSTEMS ANALYST to analyze, design, develop, test, implement and maintain application software systems in a client/server environment using Object Oriented technologies. Visual Basic, Oracle, SQL Server and Sybase. Customize and implement Oracle Application Modules such as General Ledger, Accounts Receivables, Accounts Payables Assets and Order Entry Modules under Sun Solaris, Linux, LAN & Windows NT/2000 operating systems using COBOL, C, C++ and Java. Require Bachelor's degree in Computer Science, an Engineering discipline, Business Administration or a closely related field with two years of experience in the job offered. Extensive travel as assignment to various client sites within the U.S. in required. Competitive salary offered. Apply by resume to Vishy Dasari, President, Objectnet Technologies Inc., 1117 Perimeter Center West, #E104, Atlanta, GA 30338. Attn: Job ES.

Software Consultant/Programmer Analyst. Functional requirement analysis & identification of technical enhancements for management information systems. Software development & coding. Technical environment: Visual Basic, C++, SQL Server, InstallShield, Windows. Bachelor's degree in Comp. Sci. or Comp. Eng. + 2 yrs. exp. in job offered or as Programmer Analyst or Programmer req'd. Previous exp. must include: InstallShield, Visual Basic; C++. Must be Microsoft Certified Professional. 40 hrs/wk, 8am-5pm. $65,000/yr. Must have proof of legal authority to work in the U.S. Send your resume to the IA Workforce Center, 800 7th St., SE, Cedar Rapids, IA 52406-0729. Please refer to Job Order IA1101779. Employer pd ad.

Programmer. Consult with clients to determine project specifications. Develop & implement applications to meet client requirements. Supervise junior programmers to ensure compliance with project specifications. Code, test, debug & document software applications. Must Have: Bachelor's Degree in Engineering/Computer Science/Management Information Systems, 2 yr. exp. in job offered or 2 yr. exp. in Information Technology or Programming. Salary: $68,250/yr. Hours: 40 hrs/wk, 8-5/M-F. Submit two (2) copies of resume to Case # 200203000. Labor Exchange Office, 19 Stanford St., 1st Fl., Boston, MA 02114.

Assistant Business Development Officer - Contact new clients in territorial/industry area of responsibility, maintain relationships with established clients, participate in Information Technology development project proposals, support Business Development Officer in negotiating Information Technology development contracts, develop data as required, skill sets for project completion, translate technical specifications for project teams, monitor project teams for time table compliance. Must Have: Bachelor's Degree in Engineering/Computer Science/Business, 1 yr. exp. in job offered or Information Technology. Salary: $52,000/yr. Hours: 40 hrs/wk, 8-5/M-F. Submit two (2) copies of resume to Case # 200202994, Labor Exchange Office, 19 Stanford St., 1st Fl., Boston, MA 02114.

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Also requires Peoplesoft, SAP, JD Edwards & Webmethods consultants (Various Modules). Send resume to resumes@zolon.com or mail to Zolon Tech Inc., 330 E Roosevelt Road, Suite # 291, Lombard, IL 60148. Fax 866-647-5649.

Programmer/Analyst: Develop/write programs using HTML, WebBase, PhotoShop to store, locate & retrieve information for internal systems of comp. Sci. grad. school. Design/develop programs to operate/maintain internal systems using UNIX, WebBase, PhotoShop. Convert project specs/statements of problems and procedures to logical flow charts for coding into c language. Develop/implement programming for school's web site. Requires: Bach. in Comp. Sci., Electronic Engr'ing or rel. field, w/ coursework in HTML, Unix, WebBase, PhotoShop. 40 hrs per wk. No O.T. 8 a.m. - 5 p.m. Salary offered: $42,939/yr. Applicants must show proof of legal authority to work in the U.S. Send resume to: IDES, 401 S. State St.-7N, Chicago, IL 60605. Attn: Lela Jackson. Reference #V-IL-34174. An employer-paid ad. No calls - send 2 copies of both resume & cover letter.

COMPUTER/IT
Sr. Consulting Specialist. Req. Master's deg. in Comp. Sci. or rel. field & 3 yrs. exp. in job offered or 3 yrs. exp. in design of multi-tiered web-based busin. applications. Exp. must incl. use of: VB, ATL, C++, C#, XML, ASP.NET, LDAP/ADSI & .NET technology. Must also have exp. w/enterprise portals & design of enterprise level databases, & complete lifecycle of software design. (Exp. can be obtained before or after completion of Master's deg.) Resp. for complete lifecycle of software design incl. research, design, dev't. & implementation of software components to convert busin. appls. written in legacy technologies to modern day real time e-business appls. Design multi-tiered web-based busin. appls. using various prog. languages & web technologies. Job located in Arlington. Send resume to: K. Russ Resource Consultants, Inc., 2650 Park Tower Dr., Vienna, VA 22180.

Manager Worldwide Technical Services. Manage central engineering team to provide advanced customer consulting & development services. Interface between prospects, customers & NXN core development team in Germany to turn asset management system for digital entertainment & computer graphics into a versatile solution for any complex digital media project. The position requires ability to read, write and speak to German & 4 years of exp. in the duties of the job offered. Salaried/full time position. Job site: interview - Venice, CA. Please send resumes to: NXN Software Inc., 321 Hampton Drive, Ste. 201, Venice, CA 90291.

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COMPUTER/IT
Business Developer & Regional Manager for Latin America. Requires a Bachelor's Degree (or equiv.) to Systems & Computer Engineering or a related field. Must also have 7 years of experience in the job offered or 7 years of experience leading & performing computer risk security assessments. All of stated experience must include performing information security policy development & strategic planning, implementing security software and policies to protect business infrastructure, performing return on investment analysis & designing security systems. Must be fluent in Spanish on a business level & willing to travel internationally up to 50% of the time. Job based to Atlanta, GA, but time will be divided between GA & home location. Co will pay commuting expenses. Send resume or S. Walker, Internet Security Systems, Inc., 6303 Barfield Road, Atlanta, GA 30328.

Assistant Business Development Officer -Contact new clients in territorial/industry area of responsibility, maintain relationships with established clients, participate in Information Technology development project proposals, support Business Development Officer in negotiating Information Technology development contracts, develop data as required, skill sets for project completion, translate technical specifications for project teams, monitor project teams for time table compliance. Must Have: Bachelor's Degree in Engineering/Computer Science/Business, 1 yr. exp. in job offered or Information Technology. Salary: $52,000/yr. Hours: 40 hrs/wk, 8-5/M-F. Submit two (2) copies of resume to Case # 200202994, Labor Exchange Office, 19 Stanford St., 1st fl., Boston, MA 02114.

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Master's degree in M.I.S. with 8 months experience. Require proficiency to business gap analysis, impact analyses, business process flows, work plan development, business system requirements elicitation, software development & project management with knowledge in Mainframe COBOL, JCL, SAS, Oracle SQL Server Data modeling and design, Hotos
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Bachelor's degree in computer science/related field with 2 years experience in the following:
Mainframe COBOL, JCL, CICS, VSAM, DB2
Java, JAVA, J2EE, EJB, HTML, DHTML, XML, JSP, JDBC, Java Script, C++, App Servers, Actuate reporting tool, SQL, RDBMS
Systems Architect
Master's degree in Artificial Intelligence with 6 months of experience. Required to analyze software suitability define databases & application patterns, write requirements for system architecture, develop & integrate project using C++, VC++, COM, Persistence Oracle, Visibroker, ISS, Rational Purify & Quantify, Rational Rose, Rogue Wave Libraries, OLEDB for IP, iMAN and iMAN/DAV portals.
Programmer Analysts
Bachelor's degree in computer science/related field with 2 years experience in JAVA, J2EE, Design Patterns, JSP, Servlets, JDBC, EJB, HTML, XML, Java Script, C++, PL/SQL, Oracle, BEA WebLogic, Sun Certified Java2 / Sun Certified Web component developers for J2EE platform preferred.

We accept foreign education equivalent of the degree or the degree equivalent in education and experience.

Send Resume to Expertsinc 10342 Corner e 2JW Overland Park KS 66212

PROGRAMMER/ANALYST
Design, develop, analyze software projects including the complete life cycle of the software development process. Design, develop OLAP cubes, test MDX queries with analysis services in SQL server Database. Web development with ASP.net, ADO.net, VB.net, C#.net Framework, XML, XSL, VBscript, HTML, DHTML, Javascript, SQLServer 2000. Expertise in architecting web-based solutions and database projects. 40 hours per week, 8.00 a.m. to 8.00 p.m. $56,000/year. Bachelor's degree Electronics Engineering or related field. Two years of experience in job offered or related occupation. Must have proof of legal authority to work in the United States. Send your resume to the Iowa Workforce Center, 550 Iowa Street, Dubuque, IA 52004-0757. Please refer to Job Order #IA1101790. Employer paid advertisement.

Software engineer to design, develop and test computer programs for business applications, analyze software requirements to determine feasibility of design, direct software system testing procedures using expertise in WebSphere, EJB, Visual Age, MQ Series and Oracle. Requirements: Bachelor's Degree or equivalent in Computer Science or related field and two years experience as a software engineer or computer programmer, knowledge of WebSphere, EJB, Visual Age, MQ Series and Oracle. Salary: $72,000/year. Working Conditions: 8:00 A.M. to 5:00 P.M., 40 hours/week, involves extensive travel and frequent relocation. Apply: BECS/CareerLink, Program Supervisor, Indiana County CareerLink, 300 Indian Springs Road, Indiana, PA 15701. Job No: WEB358738.

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Politics

Counterpane Internet Security Inc. "We as security researchers regularly speak, write and do reports that express our professional opinions. We assume that companies hire us for our integrity and honesty."

The authors of the report "CyberInsecurity: The Cost of Monopoly. How the Dominance of Microsoft's Products Poses a Risk to Security" may have actually undermined their independence by teaming with the Computer & Communications Industry Association.

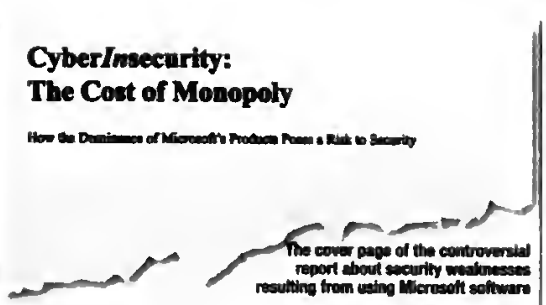
The CCIA is a Washington-based industry group whose members include direct Microsoft competitors such as Sun Microsystems Inc. and Oracle Corp., and it has supported the U.S. and European investigations into what the group has called "Microsoft's competitive abuses." The CCIA not only published and publicized the report on behalf of the researchers, but it also provided a written introduction to the document.

When asked during a teleconference on Sept. 24 about who or what organizations funded the study, Geer, whose firing had not yet been announced, said it was a "personal initiative" by the seven authors that wasn't funded by the CCIA or any third party.

Edward Black, president and CEO of the CCIA, said his organization had no role in developing the content of the report. "These guys did this on their own, and they contacted us because our expertise is in the policy area, and we had the infrastructure to publicize the report in Washington," he said.

"We didn't write the report for CCIA," said Perry Metzger, an independent security consultant and a report co-author.

"All of us are computer security people, not politicians," he said, responding to questions about the appearance of partisanship stemming from the group's relationship with the CCIA. "People should try to make up their own minds about whether or not we're right."



The cover page of the controversial report about security weaknesses resulting from using Microsoft software

Complex Connections

However, users might have a hard time deciphering exactly who the honest broker is in this case. Washington-based Americans for Technology Leadership (ATL) was quick to issue a statement lashing out at the report, calling it a "shameless" campaign by the CCIA to "line the pockets of a handful of large companies."

But ATL's position may have been undermined by the fact that Microsoft is one of the 10 founding members of the organization, which is focused on limiting government regulation of technology.

"Enterprises need to realize that if they haven't heard of an organization that produces a study, it is probably funded by a vendor or other partisan entity," said John Pescatore, an analyst at Gartner Inc.

But in this case, users have found themselves caught in the crossfire with no concrete recommendations from either side. In fact, rather than offering solutions to the problems, the report simply lays blame on a lack of government policy and on senior executives at user companies who insist on purchasing only Microsoft software because of its ease of use and compatibility.

"The blame falls mostly on the buyers, because the sellers are going to sell what the buyers want," said Schneier, who also denied that the CCIA had any influence on the report.

Geer, meanwhile, likened some corporate executives to drug addicts when it comes to their dependence on Microsoft. "Heroin addicts shouldn't buy [heroin]," he said.

Steve McDowell, CIO at Holiday Retirement Corp. in Salem, Ore., cautioned that some of the blame is being misplaced. "I would agree that Microsoft's dominance creates a single target for all the hackers and other criminally minded people to concentrate on," he said. "But I don't think the blame is anyone's but the people perpetrating these crimes." And requiring large companies to deploy multiple operating systems throughout their enterprises is simply a recipe for higher costs and more complexity, he said.

"In our industry, we like standards, because we know that leads to lower costs," said Joe Puglisi, CIO at Emcor Group Inc., a construction and facilities management company in Norwalk, Conn. "If several companies each have to enhance and maintain [a different] operating system, we are likely to see more of a quiltwork of features and pay a higher price for them."

More diversity would also require "an arsenal of tools" to move data around, Puglisi added. **41691**

Jaikumar Vijayan contributed to this report.

Continued from page 1

United Nations

grams in about 140 countries, is moving from a proprietary human resources and financial system to a PeopleSoft Inc. ERP system managed by an application service provider.

The UNDP and the vendors involved in the project — prime contractor Unisys Corp. in Blue Bell, Pa., and ASP Corio Inc. in San Carlos, Calif. — announced the six-year, $27.5 million deal last week.

Sanders said the change is touching every aspect of his IT operations.

"What I would have preferred would have been a risk-free option," said Sanders in an interview in his New York office last week. But there wasn't one, he said. "The [situation] was, take your pick as to which risk you want."

Outsourcing poses significant risks, ranging from the financial viability of the company to which you outsource, to the competence of the people there, said Sanders.

On the other hand, Sanders said he faced the problem of trying "to create from scratch a world-class application management capability" and "leveraging technologies with which we had minimal expertise."

The UNDP operates nearly 170 offices worldwide. These offices send administrative data to the agency's headquarters once a month — much too infrequently for an agency that wants to improve its business processes. And there are other problems.

Overcoming Inadequacy

The in-house system is "feature-thin," as Sanders described it, and local IT managers have developed custom applications that need to be maintained and updated.

The inadequacies of the system also created some "profound anxiety, if not outright skepticism, that headquarters would get it right this time," said Sanders. The key to addressing that skepticism was creating a project that was driven by business needs and not by IT, he said.

The UNDP decided to adopt software from Pleasanton, Calif.-based PeopleSoft about a year ago because it felt it was the best fit and offered the most accessible user interface for a global, multicultural organization.

The decision to outsource was made after assessing the cost of building an in-house system, with hardware alone costing in excess of $15 million. On top of that were software licensing costs. Moreover, the IT staff didn't have the skills needed to manage these systems, Sanders said.

A Unix platform was selected because Sanders didn't believe Wintel could scale. Sun Microsystems servers were selected as the hardware for the ERP system because the UNDP already had experience with Sun and sought "to leverage whatever strengths we already have," said Sanders.

The PeopleSoft development work is being undertaken by Cap Gemini Ernest & Young's Kansas City offices. On Oct. 31, a "gold copy" of the application will be moved to the outsourcing facility in Phoenix, with any subsequent application changes being made there, said Sanders.

He said the only technical issue he's concerned about is the potential for latency where satellite links are used.

Amy Mizoras, an analyst at IDC in Framingham, Mass., said the UN's motivations for moving to an ASP fit a classic scenario. But relatively few companies are moving to an ASP model, in part because there's no catalyst such as a Y2k upgrade pushing them to do it. **41690**

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Squandered Trust

WHAT WERE THEY THINKING? What insanely stupid impulse possessed the people at VeriSign to hijack the Domain Name System? This is a system built on trust. The U.S. government has entrusted VeriSign with control of root domain name servers. Everyone else has trusted VeriSign to deliver accurate domain name information using well-understood DNS standards.

Now VeriSign has flushed that trust down the toilet by breaking those standards and diverting DNS requests to its own Web pages.

VeriSign hopes to get $150 million a year in advertising revenue with its new "service." The rest of us get e-mail problems, broken network applications and a war of the work-arounds.

Yes, it *is* that bad. And no, VeriSign's new Site Finder "service" isn't just another innocuous search engine for fumble-fingered Web surfers.

Sure, users who type a misspelled Web address into Microsoft Internet Explorer or Netscape Navigator are redirected to a Microsoft or Netscape Web page intended to help them out.

But that's built into those Web browsers. VeriSign's gimmickry actually hijacks the entire DNS. Anytime *any* domain name request turns up a blank, instead of returning a name error the way it's supposed to, VeriSign's gimmick sends its own IP address.

Which means VeriSign's redirection affects *everything* that uses an Internet address. Such as e-mail. And networked printers. And Web services. And any networked application that depends on DNS working the way it's supposed to work.

And now, thanks to VeriSign, a lot of them are broken. And it's likely to cost a lot more than $150 million if even a fraction of them have to be modified to work around VeriSign's gimmickry.

Of course, redirecting Internet traffic this way at the DNS level would be clearly illegal if anyone else did it. But we trusted VeriSign with control of root domain name servers. And because VeriSign is abusing that trust rather than hacking into DNS servers, it may or may not be legal. At least two lawsuits have already been filed over VeriSign's gimmicked DNS, but there doesn't seem to be any way to get VeriSign to stop immediately.

So instead, we're seeing work-arounds for VeriSign's gimmicked DNS. The Internet Software Consortium, which makes the widely used BIND utility for resolving domain names, now offers a new version that can block the VeriSign gimmick and make DNS work the way it's supposed to. At least for the people whose DNS servers use that version of BIND.

But we know what to expect next, don't we? That's right: a VeriSign work-around to the BIND work-around.

And instead of having a clean, efficient, predictable and reliable DNS — a system we can trust — we'll have a patchwork of dueling work-arounds. And network applications that work on some parts of the Internet but not on others. And a lot more potential security holes — and a lot less reliability.

Enough already. This isn't VeriSign's system. It's ours. VeriSign controls those root domain servers only because it has a contract with the Internet Corporation for Assigned Names and Numbers (ICANN). VeriSign has demonstrated that it can't be trusted with the DNS. It's time to strip VeriSign of that contract.

True, VeriSign's contract is supposed to run until 2007. But the contract is subject to oversight by ICANN and the Commerce Department. And if VeriSign won't do what it was contracted to do — provide a stable, reliable DNS — it should get out of that business.

VeriSign can still be a domain name registrar. That's a place where VeriSign can focus on trying to make money without being in a position of trust.

But as for the root DNS servers, it's time to take them away from VeriSign — and put them into the hands of someone worthy of our trust. **41642**

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

Cubed and Uncubed

This company's new policy makes departments pay for office space by the square foot. So IT staffers are hustled out of their offices and wedged into cubicles, grouses pilot fish. Then headquarters makes noises about getting rid of the cubes. "We actually thought we'd get our rooms back," fish says. "But we ended up losing our cubicle walls – 'Open office space is good for teamwork,' they said – and more than half the cubicle area. Some improvement."

SHARK TANK

He Lives

"I know you'll think I'm crazy, but Elvis keeps crashing my computer," this user tells support pilot fish. And she's right – when she puts a CD-ROM in the drive, the screen turns blue, and Elvis starts singing. Fish finally figures it out: "Apparently, she put an Elvis CD in the drive on top of another CD, and it got stuck on the plunger of the CD-ROM drive," he says. "When she took out any CD, Autorun worked its magic, and the King lived again."

Worth A Try

Many IT pilot fish is tapped to figure out why the network for this training center slows to a crawl every morning at 8. It's fun, beside the chief potty officer who runs the network. The problem? Turns out the chief starts each day with a complete virus scan and backup of the network. Fish orders up after-hours, automated virus scans and backups. But it won't work unless you do it manually, chief objects. Then stay late to do it, directs fish. Result: "He decided to try the automated process," fish says.

The Best of Both Worlds

University professor gets a promotion and decides he needs two new computers, reports IT pilot fish: "One a PC, and one a Unix machine 'for his research.'" But the prof just uses the PC occasionally for e-mail and never logs into the Unix box. "We knew that would happen," fish says. "So we quietly arranged for the Unix machine to be a hosting and processor for Web applications. Then, the cycles aren't entirely wasted, and the mucky-muck gets his fancy computer."

Alien Concept

The point behind this big video presentation is internal network security, says a pilot fish in the audience. "The chief network security officer stressed that only hostname-validated software was allowed to run on any corporate computer, and software downloaded from the Internet was prohibited." But in the video, dozens of machines are clearly visible in the background, says fish – "all of them running the SETI@home screen saver."

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FRANK HAYES ■ FRANKLY SPEAKING

Squandered Trust

WHAT WERE THEY THINKING? What insanely stupid impulse possessed the people at VeriSign to hijack the Domain Name System? This is a system built on trust. The U.S. government has entrusted VeriSign with control of root domain name servers. Everyone else has trusted VeriSign to deliver accurate domain name information using well-understood DNS standards.

Now VeriSign has flushed that trust down the toilet by breaking those standards and diverting DNS requests to its own Web pages.

VeriSign hopes to get $150 million a year in advertising revenue with its new "service." The rest of us get e-mail problems, broken oetwork applications and a war of the work-arounds.

Yes, it *is* that bad. And no, VeriSign's new Site Finder "service" isn't just another innocuous search engine for fumble-fingered Web surfers.

Sure, users who type a misspelled Web address into Microsoft Internet Explorer or Netscape Navigator are redirected to a Microsoft or Netscape Web page intended to help them out.

But that's built into those Web browsers. VeriSign's gimmickry actually hijacks the entire DNS. Anytime *any* domain name request turns up a blank, instead of returning a name error the way it's supposed to, VeriSign's gimmick sends its own IP address.

Which means VeriSign's redirection affects *everything* that uses an Internet address. Sucb as e-mail. And networked printers. And Web services. And any networked application that depends on DNS working the way it's supposed to work.

And now, thanks to VeriSign, a lot of them are broken. And it's likely to cost a lot more than $150 million if even a fractioo of them have to be modified to work around VeriSign's gimmickry.

Of course, redirecting Internet traffic this way at the DNS level would be clearly illegal if anyone else did it. But we trusted VeriSign with control of root domain name servers. And because VeriSign is abusing that trust rather than hacking into DNS servers, it may or may not be legal. At least two lawsuits have already been filed over VeriSign's gimmicked DNS, but there doesn't seem to be any way to get VeriSign to stop immediately.

So instead, we're seeing work-arounds for VeriSign's gimmicked DNS. The Internet Software Consortium, which makes the widely used BIND utility for resolving domain names, oow offers a new version that can block the VeriSign gimmick and make DNS work the way it's supposed to. At least for the people whose DNS servers use that versioo of BIND.

But we know what to expect next, doo't we? That's right: a VeriSign work-around to the BIND work-around.

And instead of having a clean, efficient, predictable and reliable DNS — a system we can trust — we'll have a patchwork of dueling work-arounds. And oetwork applications that work on some parts of the Internet but not on others. And a lot more poteotial security holes — and a lot less reliability.

Enough already. This iso't VeriSign's system. It's ours. VeriSign controls those root domain servers only because it has a contract with the Ioternet Corporation for Assigned Names and Numbers (ICANN). VeriSign has demonstrated that it can't be trusted with the DNS. It's time to strip VeriSign of that cootract.

True, VeriSign's contract is supposed to ruo until 2007. But the contract is subject to oversight by ICANN and the Commerce Department. And if VeriSign won't do what it was contracted to do — provide a stable, reliable DNS — it should get out of that business.

VeriSign can still be a domain name registrar. That's a place where VeriSign can focus oo trying to make money without being in a position of trust.

But as for the root DNS servers, it's time to take them away from VeriSign — and put them into the hands of someone worthy of our trust. **41642**

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